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VOLUME XVII.—PART IV.

SECOND SESSION OF THE FIFTH LEGISLATURE

OF THE

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Asylums, Magdalen and Orphan	41	*Printed.*
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No. 19.. Reports of the Inspector of Division Courts for the years 1883 and 1884. (*Printed.*)

No. 20.. Return of copies of all Orders in Council for the sale or disposal of timber or timber berths or lands in the Thunder Bay District, or regulating the sale or disposal thereof, and of copies of all Orders in Council fixing the dues or fees to be paid in respect of such timber, and the bonus or purchase money to be paid for such timber lands or berths, or the right to cut the timber therefrom, and also of copies of all Orders in Council or regulations relating to such lands; the timber thereon, and the rate of bonus or dues to be paid in respect thereof, and also for a map or sketch shewing the area of the said district. (*Printed.*)

No. 21.. Return shewing the name of the Caretaker, Wood Ranger, or other officer of the Government (if any) in charge of the Crown Lands and timber at Rondeau Point; the salary or other remuneration (if any) paid such officer, and the amount collected by such officer (if any) for timber or ornamental trees sold, to the 31st December, 1883. (*Not printed.*)

No. 22.. Return shewing in detail the timber lots or berths in the Thunder Bay Districts which have been sold or disposed of, with the names of the persons to whom the same have been sold or disposed of; the area of each such lot or berth; the price paid therefor; the rates of dues to be paid in respect of the timber to be cut therefrom, and the names of the present owners of such lots or berths, and shewing also which (if any) of the lots upon which such rights to cut timber have been granted have been sold, and, if so, to whom, and the present owners of such lots, so far as the information is in the possession of the Department. (*Printed.*)

No. 23.. Return shewing the total number of School Sections in the Province in which the Government Grant has been withheld since 1880; giving the reasons therefor in each case, and copies of any correspondence in the Education Department bearing upon the subject. (*Not printed.*)

No. 24.. Return shewing the name of each Colonization Road on which Provincial money has been expended since July, 1867; its length in miles; the constituency or constituencies in which it is situated; the amount expended on it in each year, distinguishing between amounts for repairs and amounts for construction of new road, giving the length of road constructed. (*Printed.*)

No. 25.. Return shewing in detail the expenditures made in the Townships of Hungerford, Elzevir and Seymour, and the Village of Campbellford respectively, by the authority of the Provincial Board of Health and the Local Board of Health, or otherwise, during the late small-pox epidemic that prevailed in these localities, with the number of cases and deaths, and the length of time the epidemic prevailed; the ages of the patients, and the number of such who have been vaccinated or re-vaccinated. (*Printed.*)

No. 26.. Return of the number of Hotel and Saloon Licenses authorized to be granted in the Town of Peterborough, for the year 1883-4, under the Crooks' Act, and the number of such Licenses actually granted. (*Not printed.*)

No. 27.. Return of:—(1) Copies of the information and evidence submitted to, and taken before Mr. P. McCurry, Stipendiary Magistrate of Parry Sound, at the instance of the Parry Sound Lumber Company, against Henry May, James May, William Micklam, William Brown, ——— Crawford and William Brand, or any of such persons, on a charge of alleged breach of agreement, by the said persons, or some of them, with the said Parry Sound Lumber Company, upon which information and evidence the said persons, or some of them, were convicted and sentenced by the said Stipendiary Magistrate to imprisonment, and actually imprisoned, notwithstanding the provisions of the Dominion Act, 40 Vic., cap. 35, which abolishes imprisonment or any summary remedy in any such cases between master and servant. (2) A copy of the written agreement entered into with the said Company by the said persons or any of them, if the same, or a copy thereof, was filed with the said Stipendiary Magistrate. (3) A copy of all correspondence by or with the said Magistrate, in reference to the said convictions, with any person or persons. (*Not printed.*)

No. 28.. Supplementary Return shewing:—(1) The several lots in the Townships of Tudor, Wollaston, Limerick and Faraday, in the County of Hastings, which have been sold, located, disposed of or applied for since January 1st, 1880. (2) The dates of the said sales; the persons to whom sold; the prices paid and the terms of payments. (3) The dates of the several applications for the purchase or location of said lots. (*Printed.*)

No. 29.. Papers respecting the case of Dr. John Francis Dowling, Member for the South Riding of Renfrew. (*Printed.*)

No. 30.. Report of the Commissioner of Crown Lands for the year 1884. (*Printed.*)

No. 31.. Return shewing in detail all sums paid or claimed for specimens of minerals or other products of the District of Algoma during the past year, for exhibition in Ontario or elsewhere, with the names of all persons by whom and to whom such payments were made, or by whom such claims were made, together with all papers, documents or communications conferring upon any person or persons authority to collect such exhibits, and all reports or communications made to the Government or any member or officer thereof by such person or persons. (*Not printed.*)

No. 32.. Return of copies of all correspondence between the Government of Ontario and the Government of the Dominion, respecting the Dominion Liquor License Act of 1883. (*Printed.*)

No. 33.. Order in Council commuting the fees of His Honour Judge Dean of Victoria. (*Not printed.*)

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No. 38.. Report on the Institution for the Education of the Deaf and Dumb for the year ending 30th September, 1884. (*Printed.*)

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No. 41.. Report on the Houses of Refuge and Orphan and Magdalen Asylums aided by the Province, for the year ending 30th September, 1884. (*Printed.*)

No. 42.. Return shewing all Provincial Railways (Ontario), which were by the legislation of the Parliament of Canada of 1883 declared to be Dominion Railways. The mileage of each said Railway. The amount paid to each by the Provincial Government and by the Municipalities respectively. (*Printed.*)

No. 43.. Return of copies of all correspondence, papers and documents relating to the estreated bail bonds of one Lyons, committed for trial by the Police Magis-

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No. 45.. Return of copies of all correspondence and other papers which may have passed between the Government of Ontario and the Governments of the Dominion and Quebec, touching the final settlement of the financial affairs of the late Province of Canada, except so far as already brought down. (*Printed.*)

No. 46.. Annual Statement for the twelve months ending 30th June, 1884, of Upper Canada College. (*Not printed.*)

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No. 48.. Return furnishing the full text of the judgment of the Judges of the Queen's Bench Division of the High Court of Justice, on the Demurrer in the case of the Queen *vs.* Bunting and others. (*Printed.*)

No. 49.. Return shewing the indebtedness of any Municipality to the Government, whenever the same may be in arrears for over one year, either on account of principal or interest. (*Printed.*)

No. 50.. Statement of the Fees and emoluments received by the Registrars of Ontario for the year 1884, made in accordance with the provisions of the R. S. O., cap. 111, sec. 97, and 43 Vic., cap. 3, sec. 2, with which are contrasted receipts of same nature in 1882 and 1883. (*Printed.*)

No. 51.. Return shewing the Text Books authorized by the Education Department in Geography, Grammar, and English History, and now used in the Public Schools of this Province. (*Printed.*)

No. 52.. Return shewing in detail as to each Municipality:—(1) The amount of the original indebtedness of any Municipality to the Province under the Ontario Drainage Act. (2) The number and amounts of the rent charges originally payable in respect thereof. (3) The sum paid on account thereof. (4) The amounts in arrear for such rent charges. (5) The amount of rent charges yet to mature. And also a return of all correspondence and communications between any member or officer of the Government and any one on behalf of the said Municipalities as to the said arrears, or the reduction thereof, where any such reduction has been made, or of the claim of the Government in respect thereof, and also of all Orders in Council reducing or readjusting the indebtedness of any of the said Municipalities, and also shewing the amount of reduction in each case. (*Printed.*)

No. 53.. Return shewing the names of teachers on the superannuation list; the date of their superannuation; the amount received by each; their place of abode at the time of superannuation, and by whom their superannuation was recommended. (*Not printed.*)

No. 54.. Return of copies of all correspondence with reference to the application of Henry S. Mitchell to be appointed Notary Public. (*Not printed.*)

No. 55.. Return from each Registry Office, giving, for the final nine months of the year 1884, the following particulars :—(1) Number of absolute transfers and amount of fees received therefor. (2) The number of mortgages and the amount received therefor. (3) The number of discharges of mortgages and the fees received therefor. (4) The number of leases and the fees received therefor. (5) The number of wills and probates and the fees received therefor. (6) The number of patents and the fees received therefor. (7) The number of assignments of mortgage and the fees therefor. (8) The number of powers of attorney and the fees received therefor. (9) The number of bonds and agreements for sale of land and the fees received therefor. (10) The number of searches and abstracts and the fees received therefor. (11) The fees received for registering certificates, by-laws, plans and other instruments and services not enumerated and the fees received therefor. (12) Total amount received for registry fees. (13) The amount of surplus (if any) payable to the County. (*Printed.*)

No. 56.. Return of copies of Extracts, etc., from the Reports and Proceedings of the Special Committees appointed by the Imperial House of Commons in the years 1876 and 1877 to enquire whether it might be expedient to render employers liable for injuries occasioned to their servants, etc., and a copy of a letter addressed by Lord Justice Bramwell to Sir Henry Jackson, a member of said Committee, with respect to the matters inquired into by said Committees. (*Printed.*)

No. 57.. Report of the Inspector of the Elgin House of Industry and Refuge for the year ending 1st November, 1884, as required by section 460 of the Consolidated Municipal Act, 1883. (*Not printed.*)

No. 58.. Return of copies of all correspondence between the Government and the Council of University College respecting the admission of women to that institution, and shewing :—(1) The number of women attending classes in University College up to the date of the Return, distinguishing between matriculated and non-matriculated students, and between residents and non-residents of Toronto. (2) The number of women taking honour work in each Department in each year of the curriculum. (3) The amount spent by the Government and the College Council, as the result of the admission of women, with the objects for which it was spent. (4) The number of women undergraduates in each year of the Toronto University course ; and (5) The number who have passed successfully in any of the groups of subjects at the local examinations for women, held under the auspices of the University, distinguishing between the first, second and third examinations. (*Printed.*)

No. 59.. Return shewing the number of licenses granted for the keeping of Private Lunatic Asylums for the years 1882, 1883, and 1884 ; the names of all persons obtaining such licenses, and the date of their issue. (*Not printed.*)

No. 60.. Return of copies of all correspondence between William Coe and the Crown Lands Department, relating to lands sold to him in the year 1883 ; also, for a copy of the Report of the Commissioner of Crown Lands to the Lieutenant-Governor in Council on the sale made in such year 1883 ; also a copy of the Order in Council confirming such sale ; also, as a supplementary return presented to the House during the present Session states the terms of said sale were cash, a statement of dates of payments made on account of said sale. The above Return to apply only to lands sold in the Townships of Wollaston, Limerick, Faraday and Tudor, in the County of Hastings. (*Printed.*)

No. 61.. Return of all papers, documents and correspondence to or from the Government or any member thereof, since the first day of March, 1884, to the present time, respecting the conduct of Samuel Stanley Peck, Esquire, Stipendiary Magistrate and Division Court Judge for the Provisional County of Haliburton, at the Municipal elections held on the fifth day of January last, in the Township of Minden, and subsequently thereto, and of any official or other information respecting the citizenship of the said Peck, and of any communication respecting the debt of the said S. S. Peck to the said Provisional County whilst treasurer thereof. (*Printed.*)

No. 62.. Abstract of Returns of Receipts, Expenditures, Assets and Liabilities, for the year 1884, of the Municipalities of the Province of Ontario, made by Clerks of Municipalities pursuant to 43 Vic., cap. 24, sec. 6, with the population of each Municipality. (*Printed.*)

No. 63.. Return of copies of all correspondence between the Department of Education and the Inspector of the County of Dufferin or the Trustees of School Section No. 1, East Luther, or any other person, relating to the Division of the said School Section. (*Not printed.*)

No. 64.. Return shewing the number of certificates of Railway Annuities and the amounts of the same which have been either sold or exchanged for any portion of the outstanding Railway Scrip, as authorized under the provisions of cap. 31, 47 Vic.; to whom sold or with whom exchanged; the terms upon which such sale or exchange was effected, and when sold; the date of the receipt of the money therefor. Also a copy of the advertisement asking for tenders, with copies of all tenders received in response thereto. (*Printed.*)

No. 65.. Return of copies of a certain memorandum or scheme with regard to a Federation of the other Universities and Colleges in Ontario with University College, and of all reports or resolutions of the governing bodies of the University of Toronto and other Universities or Colleges in relation thereto, and copies of any other documents affecting the proposed Federation. (*Printed.*)

No. 66.. The Bursar's Statement of Cash Transactions of the University of Toronto and University College, for the year ending 30th June, 1884. (*Printed.*)

No. 67.. Return giving a statement of all the real property belonging to the Endowment Fund of Toronto University, University College, and Upper Canada College, and the value thereof, and of all other property, namely: Debentures, Mortgages; Bank Stock; Balances that may be due on Sales of Land; Cash Balances in Banks; and any cash that may be in hand as on the 31st June, 1884; the income derived from the said property for the years 1883 and 1884, with the expenditure of the same for the same period; a clear statement shewing the kind of educational work that Upper Canada College is doing in excess or advance of what any well equipped High School is doing or can do. (*Printed.*)

No. 68.. Return shewing the amount spent in scholarships, bursaries, exhibitions and prizes in Toronto University, University College and Upper Canada College during the ten years ending 1883-4, distinguishing between those on public and those on private foundations, and in the case of the University between those granted in the different faculties of Arts, Law and Medicine. Also, amount paid annually, *per* student, by fees in each of the above classes. (*Printed.*)

No. 69.. Return shewing the names of all companies or associations incorporated under chapter 167 of the Revised Statutes, since the year 1877, with the dates and places of incorporation, and particularly the objects of incorporation thereof respectively. The names and like particulars as to companies or associations incorporated since the year 1877 under chapter 158 of the Revised Statutes, being the Act respecting co-operative associations. (*Printed.*)

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No. 72.. Return shewing the lots in the Township of Harvey, in the County of Peterborough, which, while under license for the cutting of timber, have been sold since the first day of January, 1880, with a statement of the date when the right to cut timber under such license would cease in consequence of such sale. Also, the name or names of the license holders whose license covered such lands. (*Not printed.*)

No. 73.. Report of the Dairymen's Association of Western Ontario for the year 1884. (*Printed.*)

No. 74.. Return of copies of all applications made to the Provincial Government for aid to Railways since the passage of the Dominion Act of 1883, declaring Provincial Railways to be for the benefit of Canada, with copies of all correspondence relating to such applications. (*Not printed.*)

No. 75.. Return of all correspondence between the Crown Lands Department, or any officer thereof, and any other person, with reference to the dues charged by timber limit holders to actual settlers upon lots on which they have not been formally located. (*Not printed.*)

No. 76.. Return to an Address, of the fourteenth day of March, 1884, for copies of all Orders in Council passed under the authority of the General Mining Act, creating, extending, adding to, or diminishing mining divisions. (*Printed.*)

No. 77.. Report of the Secretary and Registrar of the Province for the year 1884. (*Printed.*)

No. 78.. Return of all market fees and market rents, salaries of market clerks, with rates of fees now charged and any changes of fees known to the Department since the passing of the Act relating to Market Fees, being 45 Vic., cap. 24. (*Not printed.*)

No. 79.. Return of all correspondence between the Crown Lands Department, or any officer thereof, and any other person, with reference to the opening up for settlement of the Townships of Himsworth and North Nipissing, or any part of them, and also, of all petitions, reports or Orders in Council on the subject; also, for copies of all petitions or applications to the Crown Lands Department for a supply of timber for the purposes of a local mill there, and of all correspondence between the Department and any other person on the subject. (*Not printed.*)

No. 80.. Statement of the Assets, Liabilities, Revenue, Expenditure, etc., of the several Municipalities in the Province, as made by the Clerks of the Municipalities for the year 1883. (*Not printed.*)

No. 81.. Return of copies of all reports made to the Government by Directors of Joint Stock Road Companies for the year 1884, under sec. 146, cap. 152, of the Revised Statutes, as amended by ss. 6 and 7, cap. 25, 47 Vic., and a Return shewing the date of construction of all toll roads in the Province, the number of toll-gates maintained thereon, the rate *per* mile charged as tolls, and specifying the amount of the original capital stock, and the amount of the present stock, with the reasons for an increase, if any, in each case; also a Return shewing the toll roads which have been abolished in the Province, or on which the collection of tolls has ceased, and the manner and terms of their abolition, or the reasons why tolls have ceased to be collected. (*Not printed.*)

No. 82.. Statement in detail of the Receipts and Expenditures on account of the Mercer Estate for the year 1884. (*Printed.*)

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No. 86.. Return shewing what sums have been paid to George R. Patullo on any account whatever since first January, 1883, with the dates of the payment thereof and the purpose for which such payments were made. (*Printed.*)

No. 87.. Return of copies of all correspondence and other documents relating to the cancellation of location of lot number 33 in the first concession of Snowden, in the Provisional District of Haliburton, and of all correspondence and documents relating to the sale or re-location of the same lot. (*Not printed.*)

No. 88.. Return of all correspondence between the Municipal Council of the Township of Roxborough, or any member or officer thereof, and the Provincial Secretary, or any officer of his Department, with reference to the claim made by the License Board of Stormont upon the said Municipality for payment of fifty dollars towards the expenses of enforcing the Temperance Act of 1864 in the Township of Roxborough. Also, shewing the amount demanded from each Municipality in which the said Act was in force for each of the years 1882, 1883 and 1884, and the amount paid in respect of such demand. Also, shewing how the said sum of fifty dollars demanded from the said Township of Roxborough is made up. (*Not printed.*)

No. 89.. Report of the Inspector of Legal Offices, for the year 1884. (*Printed.*)

No. 90.. Report of the Entomological Society of Ontario for the year 1884. (*Printed.*)

No. 91.. Return shewing the several Lots in the Townships of Belmont, Methuen, Anstruther, Galway and Cavendish, in the County of Peterborough, and of the Townships of Cardiff, Monmouth, Snowden, Lutterworth and Glanmorgan, in the Provisional County of Haliburton, which have been sold,

located, disposed of, or applied for, otherwise than under the "Free Grant and Homestead Act," since the first day of January, 1880; also, the dates of the said sales, the persons to whom sold, the prices paid, and terms of payment; also, the dates of the several applications for the purchase, location, and terms of location of said lots. (*Not printed.*)

No. 92.. Return of the names of all persons appointed or employed for the collection of Statistics other than Vital Statistics in connection with any Department of the Provincial Government; the places of residence of such persons, the salary or other remuneration paid or given to them; the dates during which they were employed; the instructions, if any, given to such persons, and a statement shewing the cost of compiling such statistics, such Return to embrace the years 1883 and 1884. (*Not printed.*)

RETURN

From the Records of the Elections to the Legislative Assembly since the last Return in 1884, shewing:—(1) The number of Votes polled for each Candidate in each Electoral District in which there was a contest. (2) The majority whereby each successful Candidate was returned. (3) The total number of Votes polled in each district. (4) The number of Votes remaining unpolled. (5) The number of names on the Voters' Lists in each District. (6) The population of each District as shewn by the last Census.

CHARLES T. GILLMOR,
Clerk of the Legislative Assembly.

LEGISLATIVE ASSEMBLY,
TORONTO, 1885.

Return from the Records of the Elections to the Legislative Assembly since the last Return in 1884, shewing:—(1) The number of Votes polled for each Candidate in each Electoral District in which there was a contest. (2) The majority whereby each successful Candidate was returned. (3) The total number of Votes polled in each District. (4) The number of Votes remaining unpolled. (5) The number of names on the Voters' Lists in each District. (6) The population of each District as shewn by the last Census.

Electoral District.	Names and Numbers of Polling Sub-Divisions.	Names of Candidates and No. of Votes Polled for Each.		Voters in each Sub-Division			Ballot Papers sent out, and how Disposed of in each Sub-Division.							Tendered Ballot Papers sent out and how disposed of in each Sub-Division.		Population in each Constituency, as shewn by last Census.
		McColman.	Myles.	Total No. of Votes Polled.	No. of Votes remaining Unpolled.	No. of Names on the Voters' Lists.	No. of Ballot Papers sent out to each Sub-Division.	Used Ballot Papers.	Unused Ballot Papers.	Rejected Ballot Papers.	Spoiled Ballot Papers.	Ballot Papers given to Voters who afterwards declined to Vote.	Ballot Papers taken from Polling Places.	No. of Tendered Ballots sent out to each Sub-Division.	Used.	Unused.	
Grey, E. R...	Artemesia .....No. 1	34	54	88	97	185	229	88	141	....	....	.....	.....	20	.....	20	
	do ..... " 2	84	56	146	75	221	269	140	121	5	3	.....	.....	20	1	19	4,576
	do ..... " 3	113	40	153	120	273	319	153	164	2	....	.....	.....	20	.....	20	
	do ..... " 4	45	36	81	133	214	270	81	189	....	....	.....	.....	20	.....	20	
	Collingwood .... " 1	14	2	16	20	36	60	17	42	....	1	.....	.....	15	.....	15	
	do .... " 2	28	5	33	57	90	150	33	117	....	....	.....	.....	15	.....	15	
	do .... " 3	9	8	17	20	37	89	17	72	....	....	.....	.....	10	.....	10	
	do .... " 4	24	6	30	47	77	140	30	109	1	....	.....	.....	10	.....	10	
	do .... " 5	34	9	43	29	72	140	48	96	....	1	.....	.....	15	1	14	4,915
	do .... " 6	37	28	65	56	121	178	65	113	....	....	.....	.....	20	.....	20	
	do .... " 7	50	15	65	73	138	198	65	132	1	....	.....	.....	20	.....	20	
	do .... " 8	45	18	63	62	125	199	63	135	....	1	.....	.....	20	.....	20	
	do .... " 9	38	51	89	71	160	218	89	129	....	....	.....	.....	20	1	19	
	do .... " 10	53	42	95	59	154	208	95	113	....	....	.....	.....	25	.....	25	
	Euphrasia ..... " 1	36	45	81	70	151	209	81	128	....	....	.....	.....	20	.....	20	
	do ..... " 2	51	27	78	112	190	240	78	160	....	2	.....	.....	20	1	19	
	do ..... " 3	55	53	108	82	191	239	108	130	....	1	.....	.....	20	2	18	3,688
	do ..... " 4	32	53	85	48	133	190	85	105	....	....	.....	.....	20	1	19	
	do ..... " 5	26	10	36	51	87	144	36	108	....	....	.....	.....	15	.....	15	
	do ..... " 6	23	11	34	67	101	155	34	120	....	1	.....	.....	20	.....	20	

	Holland ..... " 1	32	41	73	102	175	232	73	158	....	1	.....	.....	20	.....	20		
	do ..... " 2	67	16	83	91	174	240	83	157	....	....	.....	.....	20	.....	20		
	do ..... " 3	76	29	105	58	163	222	105	117	....	....	.....	.....	20	.....	20	3,688	
	do ..... " 4	36	11	47	82	129	185	47	138	....	....	.....	.....	25	.....	25		
	do ..... " 5	53	20	73	37	110	168	73	95	....	....	.....	.....	25	.....	25		
	Osprey .. . .. " 1	61	11	73	52	125	175	72	100	3	....	.....	.....	25	.....	25		
	do ..... " 2	50	16	66	112	178	226	66	160	....	....	.....	.....	35	.....	35		
	do ..... " 3	25	18	43	94	137	185	43	142	....	....	.....	.....	25	.....	25	3,512	
	do ..... " 4	51	15	66	72	138	185	66	118	....	1	.....	.....	20	2	18		
	do ..... " 5	45	14	59	71	130	184	39	125	....	....	.....	.....	20	.....	20		
	Proton ..... " 1	30	13	43	164	207	275	43	231	1	....	.....	.....	25	.....	25		
	do .... " 2	33	55	88	53	141	196	88	107	1	....	.....	.....	20	.....	20		
	do ..... " 3	28	44	72	78	150	195	72	123	....	....	.....	.....	20	.....	20	3,402	
	do ..... " 4	31	14	45	32	77	127	45	82	....	....	.....	.....	15	.....	15		
	do ..... " 5	91	39	130	80	210	264	130	132	2	....	.....	.....	20	.....	20		
	Totals..... 35	1,540 925	925	2,465	2,535	5,000	6,903	2,451	4,409	16	12	.....	.....	700	9	691	23,781	
	Major'y for McColman	615																
		Cook.	Noxon.															
Oxford, S. R..	Ingersoll.....No. 1	35	80	115	49	167	167	116	50	1	1	.....	.....	21	.....	21		
	do ..... " 2	42	72	114	59	175	175	115	60	1	....	.....	.....	20	2	18		
	do ..... " 3	29	75	104	102	206	205	107	98	2	1	.....	.....	22	.....	22		
	do ..... " 4	27	73	100	75	175	175	102	73	2	....	.....	.....	21	.....	21	4,618	
	do ..... " 5	44	86	130	67	197	197	130	67	....	....	.....	.....	21	1	20		
	do ..... " 6	45	54	99	63	162	162	100	62	1	....	.....	.....	21	.....	21		
	Tilsonburg..... " 1	69	33	102	58	161	160	102	58	....	....	.....	.....	21	.....	21		
	do ..... " 2	63	31	94	64	158	158	96	62	2	1	.....	.....	21	2	19	1,873	
	do ..... " 3	78	30	108	76	204	184	109	75	1	....	.....	.....	21	1	20		
	Norwich Village: " 1	68	34	102	113	215	204	143	111	....	1	.....	.....	20	.....	20		
	do do " 2	127	32	159	129	288	284	159	125	....	1	.....	.....	21	.....	21	1,411	
	Oxford East .... " 1	69	56	125	44	169	169	125	44	....	....	.....	.....	21	.....	21		
	do .... " 2	74	52	126	35	161	161	126	34	1	....	.....	.....	20	.....	20	2,313	
	do .... " 3	53	67	120	50	170	171	120	48	2	1	.....	.....	21	.....	21		
	Oxford North ... " 1	55	77	132	54	186	186	132	54	....	....	.....	.....	21	1	20		
	do ... " 2	53	58	111	66	177	177	113	64	2	....	.....	.....	21	.....	21	1,645	
	Oxford West.... " 1	46	69	115	75	190	194	115	75	....	....	.....	.....	19	.....	19		
	do .... " 2	78	82	160	37	199	198	161	36	1	....	.....	.....	21	4	17	2,694	
	do .... " 3	65	83	148	30	179	178	149	29	1	....	.....	.....	21	.....	21		
	Dereham..... " 1	60	57	117	60	177	173	118	55	1	....	.....	.....	21	.....	21		
	do ..... " 2	61	40	101	74	174	176	103	71	....	....	.....	.....	20	.....	20		
	do ..... " 3	57	58	115	82	197	197	116	81	1	....	.....	.....	20	.....	20		
	do ..... " 4	61	43	104	61	165	165	105	60	1	....	.....	.....	25	.....	25	4,486	
	do ..... " 5	87	23	110	51	161	162	110	52	....	....	.....	.....	20	.....	20		
	do ..... " 6	56	61	117	42	159	158	119	39	1	1	.....	.....	20	.....	20		
	Carried forward.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

RETURN from the Records of the Elections to the Legislative Assembly since the last Return in 1884, etc.—*Continued.*

Electoral District.	Name and Numbers of Polling Sub-Divisions.	Names of Candidates and No. of Votes Polled for Each.		Voters in each Sub-Division.			Ballot Papers sent out, and how Disposed of in each Sub-Division.								Tendered Ballot Papers sent out and how disposed of in each Sub-Division.		Population in each Constituency, as shewn by last Census.
				Total No. of Votes Polled.	No. of Votes remaining Unpolled.	No. of Names on the Voters' List.	No of Ballot Papers sent out in each Sub-Division.	Used Ballot Papers.	Unused Ballot Papers.	Rejected Ballot Papers.	Spoiled Ballot Papers.	Ballot Papers given to Voters who afterwards declined to Vote.	Ballot Papers taken from Polling Places.	No. of Tendered Ballots sent out to each Sub-Division.	Used.	Unused.	
		Cook.	Noxon.														
	Brought forward.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oxford, S. R..	Norwich South.. " 1	61	39	100	90	190	189	104	85	2	2	.....	.....	20	.....	20	
	do .. " 2	41	43	84	76	160	160	84	76	....	....	.....	.....	20	.....	20	
	do .. " 3	40	61	101	124	225	223	102	121	1	....	.....	.....	20	.....	20	3,360
	do .. " 4	42	63	105	94	203	199	105	94	....	....	.....	.....	20	.....	20	
	do .. " 5	46	53	99	87	185	184	99	85	....	....	.....	.....	20	.....	20	
	Norwich North.. " 1	40	46	86	79	165	165	87	78	1	....	.....	.....	20	.....	20	
	do .. " 2	63	55	118	63	181	181	119	62	....	1	.....	.....	20	.....	20	2,632
	do .. " 3	78	41	119	48	166	166	121	45	1	1	.....	.....	20	.....	20	
	do .. " 4	50	35	85	44	129	129	85	44	....	....	.....	.....	20	.....	20	
	Totals.....	1,963 1,862	1,862	3,825	2,331	6,156	6,135	3,858	2,273	26	11	.....	.....	701	11	690	25,932
	Majority for Cook	101															
		Dill.	McEachern.														
Muskoka and Parry Sound.	Armour.....No. 1	29	26	55	82	185	125	55	60	....	....	.....	.....	5	.....	5	
	do ..... " 2	25	23	48			125	47	76	1	....	.....	.....	5	.....	5	
	Brunel	40	58	98	63	161	175	98	77	....	....	.....	.....	5	.....	5	
	Bracebridge.....No. 1	52	56	108	59	167	200	108	92	....	....	.....	.....	5	.....	5	
	do ..... " 2	25	15	40	46	86	100	40	60	....	....	.....	.....	5	.....	5	
	Cardwell	27	35	62	36	98	100	62	38	....	....	.....	.....	5	1	4	
	Chaffey .....No. 1	60	56	116	66	182	200	117	83	1	....	.....	.....	5	.....	5	
	do ..... " 2	16	15	31	42	73	100	31	69	....	....	.....	.....	5	.....	5	
	Chapman.....	39	58	97	36	133	150	97	53	....	....	.....	.....	5	1	4	

Draper	70	54	124	34	158	175	124	51	....	....	.....	5	1	4		
Foley	47	18	65	51	116	125	66	59	1	....	.....	5	.....	5		
Gravenhurst.....No. 1	57	53	110	43	153	175	110	65	....	....	.....	5	.....	5		
do ..... " 2	34	33	67	17	84	150	67	83	....	....	.....	5	.....	5		
Humphrey	28	44	72	32	104	149	72	77	....	....	.....	5	.....	5		
Medora and Wood No. 1	25	17	42	24	66	75	42	33	....	....	.....	5	1	4		
do " 2	25	7	32	31	63	75	34	41	2	....	.....	5	1	4		
do " 3	9	8	17	11	28	75	18	57	1	....	.....	5	.....	5		
Morrison	51	47	98	27	125	150	102	48	4	....	.....	5	1	4		
Monck	61	35	96	51	147	200	97	103	....	1	.....	5	.....	5		
Muskoka.....No. 1	52	25	77	} 83	239	{ 125	79	46	2	....	.....	5	.....	5		
do ..... " 2	30	49	79	}		{ 150	83	67	4	....	.....	5	.....	5		
Mcaulay ..... " 1	53	38	91	24	115	150	91	59	....	....	.....	5	.....	5		
do ..... " 2	18	27	45	13	58	100	45	55	....	....	.....	5	.....	5		
McLean ..... " 1	33	44	77	45	122	150	77	73	....	....	.....	5	.....	5		
McDougall ..... " 1	78	32	110	63	173	200	110	90	....	....	.....	5	.....	5		
do ..... " 2	25	16	41	58	99	126	41	85	....	....	.....	5	.....	5		
McKellar ..... " 1	25	33	58	14	72	100	58	42	....	....	.....	5	1	4		
do ..... " 2	16	30	46	39	85	100	48	52	2	....	.....	10	.....	10		
Oakley	20	21	41	20	61	75	41	34	....	....	.....	5	.....	5		
Ryde	20	47	67	34	101	125	67	58	....	....	.....	5	.....	5		
Ridout	24	8	32	27	59	75	32	43	....	....	.....	5	.....	5		
Ryerson .....No. 1	19	34	53	} 104	181	{ 150	53	97	....	....	.....	5	.....	5		
do ..... " 2	13	11	24	}		{ 125	24	101	....	....	.....	5	.....	5		
Strong	45	41	86	56	142	150	87	63	1	....	.....	5	.....	5		
Stisted	39	42	81	61	142	150	81	69	....	....	.....	5	.....	5		
Stephenson.....No. 1	31	49	80	28	108	125	80	45	....	....	.....	5	.....	5		
do ..... " 2	33	19	52	16	68	75	52	23	....	....	.....	5	.....	5		
Watt	49	61	110	44	154	200	111	89	....	1	.....	5	2	3		
Bear Lake (Monteith)	11	12	23	Unorganized, cannot give number of voters.	Unorganized, cannot give number of votes.	75	25	50	....	2	.....	20	1	19		
Barrett's (Himsworth)	6	19	25			75	25	50	....	....	.....	20	.....	20		
Bethune	30	8	38			75	38	37	....	....	.....	10	.....	10		
Byng Inlet (Wallbridge)	63	10	73			175	74	101	....	....	1	25	.....	25		
Baxter	34	1	35			100	35	65	....	....	.....	20	.....	20		
Christie	19	8	27			75	27	48	....	....	.....	20	.....	20		
Cyprus (Perry)	37	22	59			175	60	115	1	....	.....	20	.....	20		
Commanda (Gurd) ...	31	27	58			75	59	16	1	....	.....	20	.....	20		
Carling	26	20	46			100	46	54	....	....	.....	20	.....	20		
Croft Ahmie Harbour	21	15	36			50	38	12	2	....	.....	20	.....	20		
do do Lake....	4	8	12			50	12	38	....	....	.....	10	.....	10		
do Morris's.....	6	9	15			50	15	35	....	....	.....	10	.....	10		
Dunchurch (Hagerman)	45	28	73			151	74	77	1	....	.....	15	.....	15		
Emsdale (Perry)	24	43	67			150	67	83	....	....	.....	15	.....	15		
Ferguson	15	17	32			75	32	43	....	....	.....	25	.....	25		
Ferrie (Glenila)	21	8	29			75	30	45	1	....	.....	10	.....	10		
Gibson	15	19	34			75	36	39	2	....	.....	40	.....	40		
Franklin	32	21	53			100	53	47	....	....	.....	30	.....	30		
Joly	9	5	14			75	14	61	....	....	.....	5	.....	5		
Kearney (Perry)	22	7	29			100	29	71	....	....	.....	10	1	9		
Carried forward...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

RETURN from the Records of the Elections to the Legislative Assembly since the last return in 1884, etc.—*Continued.*

Electoral District.	Name and Numbers of Polling Sub-Divisions.	Names of Candidates and No. of Votes Polled for each.		Voters in each Sub-Division.			Ballot Papers sent out, and how Disposed of in each Sub-Division.							Tendered Ballot Papers sent out and how disposed of in each Sub-Division.		Population in each Constituency, as shown by last Census.
				Total No. of Votes Polled.	No. of Votes remaining Unpolled.	No. of Names on the Voters' Lists.	No. of Ballot Papers sent out to each Sub-Division.	Used Ballot Papers.	Unused Ballot Papers.	Rejected Ballot Papers.	Spoiled Ballot Papers.	Ballot Papers given to Voters who afterwards declined to Vote.	Ballot Papers taken from Polling Places.	No. of Tendered Ballots sent out to each Sub-Division.	Used.	Unused.	
		Dill.	McEachern.													
Muskoka and Parry Sound.	*Brought forward*....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	Lount	12	71	23	Unorganized, cannot give number of voters.	Unorganized, cannot give number of votes.	50	23	27	....	....	.....	.....	20	.....	20	
	Seguin Falls (Monteith)	10	6	16			45	16	29	....	....	.....	.....	10	.....	10	
	Haldane Hill (McMurrich)	31	43	74			150	75	75	1	....	.....	.....	25	.....	25	
	Barons (McMurrich) ..	10	2	12			50	12	38	....	....	.....	.....	10	1	9	
	McConkey	10	8	18			100	18	82	....	....	.....	.....	20	.....	20	
	Machar..	16	24	40			75	40	35	....	....	.....	.....	20	.....	20	
	Nipissing	27	51	78			100	78	22	....	....	.....	.....	40	.....	40	
	Powassen (Himsworth)	10	28	38			50	38	12	....	....	.....	.....	20	.....	20	
	Restule (Patterson) ...	3	11	14			50	14	36	....	....	.....	.....	20	.....	20	
	Spence	18	62	80			105	81	24	1	....	.....	.....	20	4	16	
	Sinclair	27	23	50			75	52	23	....	2	.....	.....	15	.....	15	
	Totals.....	1,988 1,861	1861	3,849	1,480	4,108	7,801	3,883	3,906	29	6	1	.....	780	16	764	17,092
	Majority for Dill.....	127															
		Blackstock.	Hawley.													
Lennox	Ernestwon .....No. 1	54	58	112	34	146	200	112	85	2	1	.....	.....	23	.....	23	
	do ..... " 2	74	86	160	47	207	300	160	136	2	2	.....	.....	23	1	22	
	do ..... " 3	96	148	244	36	280	350	244	102	1	3	.....	.....	23	.....	23	3,901
	do ..... " 4	51	73	124	47	171	200	124	75	....	1	.....	.....	20	.....	20	
	do ..... " 5	82	95	177	43	220	300	177	118	5	....	.....	.....	23	3	20	
	N. Fredericksbg'h " 1	73	100	173	54	227	250	173	76	1	....	.....	.....	23	.....	23	1,720
	do " 2	96	85	181	67	248	250	181	69	....	....	.....	.....	23	.....	23	

	S. Fredericksb'gh " 1	80	46	126	19	145	200	126	74	....	....	.....	.....	23	2	21	1,340
	do " 2	62	64	126	29	155	200	126	74	....	....	.....	.....	23	.....	23	
	Richmond ..... " 1	92	93	185	66	251	300	185	114	1	....	.....	.....	23	.....	23	
	do ..... " 2	77	81	158	51	209	250	158	92	....	....	.....	.....	23	.....	23	3,241
	do ..... " 3	67	53	120	32	152	200	120	80	....	....	.....	.....	23	.....	23	
	do ..... " 4	69	50	119	58	177	200	119	77	4	....	.....	.....	23	.....	23	
	Amherst Island.....	77	66	143	30	173	200	143	55	2	....	.....	.....	23	.....	23	1,089
	Bath	34	37	71	24	95	150	71	78	1	....	.....	.....	21	.....	21	546
	Adolphustown.....	58	67	125	28	153	200	125	75	....	....	.....	.....	23	.....	23	737
	Napanee, C. W..No. 1	78	47	125	85	210	250	125	124	....	1	.....	.....	23	.....	23	
	do C. W.. " 2	54	47	101	67	168	200	101	98	....	1	.....	.....	23	.....	23	
	do W. W.. " 1	25	44	69	46	115	200	69	131	....	....	.....	.....	23	1	22	3,680
	do W. W.. " 2	53	43	96	81	177	250	96	154	....	....	.....	.....	23	.....	23	
	do E. W.....	50	61	111	64	175	200	111	86	2	1	.....	.....	23	.....	23	
	Totals...	1,402	1,444 1,442	2846	1008	3854	4850	2846	1993	21	10	.....	.....	478	7	471	16,254
	Majority for Hawley..	.....	42														
		Dowling.	Harvey.														
Renfrew, S.R.	Admaston .....No. 1	78	5	83	128	211	220	83	157	1	....	.....	.....	20	.....	20	2,383
	do ..... " 2	81	4	85	39	124	150	85	64	....	....	.....	.....	15	.....	15	
	Arnprior ..... " 1	15	22	37	121	158	175	37	138	....	....	.....	.....	15	.....	15	2,147
	do ..... " 2	28	34	62	178	240	260	62	198	....	....	.....	.....	20	.....	20	
	Bagot and Blithfield ..	32	17	49	63	112	120	49	71	....	....	.....	.....	10	.....	10	1,126
	Brougham.....	21	5	26	35	61	75	26	59	....	....	.....	.....	10	.....	10	574
	Brudenell & Lynedoch.	83	9	92	60	152	160	92	68	....	....	.....	.....	20	1	19	1,270
	Grattan.....No. 1	22	9	31	31	62	75	31	45	....	....	.....	.....	12	1	11	
	do ..... " 2	109	9	118	45	163	125	118	55	1	1	.....	.....	20	.....	20	1,893
	Griffith& Mattawachan	19	6	25	30	55	60	25	35	....	....	.....	.....	8	.....	8	614
	Hagarty,Sherwood, etc .....No. 1	45	2	47	62	109	75	47	28	2	....	.....	.....	12	.....	12	
	do .... " 2	10	.....	10	.....	.....	50	10	40	....	....	.....	.....	14	.....	10	1,535
	Horton ..... " 1	39	3	42	114	156	175	42	133	....	....	.....	.....	24	.....	20	
	do ..... " 2	47	.....	47	53	100	120	47	71	....	2	.....	.....	15	.....	15	1,510
	McNab..... " 1	50	14	61	133	197	210	64	141	1	....	.....	.....	20	.....	20	
	do ..... " 2	55	14	69	116	185	300	69	131	....	....	.....	.....	20	2	18	3,092
	do ..... " 3	30	22	52	130	182	200	52	148	....	....	.....	.....	20	.....	20	
	Radcliffe and Raglan..	33	1	34	56	90	100	24	66	....	....	.....	.....	15	.....	15	785
	Renfrew .....No. 1	61	34	95	80	175	200	95	175	....	....	.....	.....	20	.....	20	
	do ..... " 2	45	8	53	83	136	150	53	97	....	....	.....	.....	20	.....	20	1,605
	Sebastopol.....	23	3	26	13	39	50	20	24	....	....	.....	.....	10	.....	10	626
	Totals.....	926 221	221	1147	1560	2707	3050	1131	1944	5	3	.....	.....	340	4	328	19,160
	Majority for Dowling.	705															

SEVENTEENTH ANNUAL REPORT

OF THE

INSPECTOR OF PRISONS AND PUBLIC CHARITIES

ON THE

ASYLUMS FOR THE INSANE

AND THE

ASYLUM FOR IDIOTS,

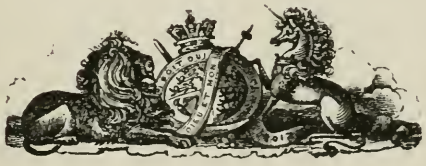
OF THE

PROVINCE OF ONTARIO,

BEING FOR THE YEAR ENDING 30TH SEPTEMBER,

1884.

Printed by Order of the Legislative Assembly.



Toronto:
PRINTED BY GRIP PRINTING AND PUBLISHING CO., FRONT STREET
1884.

OFFICE OF THE
INSPECTOR OF PRISONS AND PUBLIC CHARITIES, ONTARIO,
PARLIAMENT BUILDINGS, TORONTO, December, 1884.

SIR,—I have the honour to transmit herewith, to be presented to His Honour, the Lieutenant-Governor, the Seventeenth Annual Report upon the Asylums for the Insane and the Asylum for Idiots, of the Province of Ontario, being for the official year ending 30th September, 1884.

I have the honour to be, Sir,

Your most obedient servant.

W. T. O'REILLY.
Inspector.

The Honourable
ARTHUR STURGIS HARDY, Q.C., M.P.P.,
Secretary for the Province of Ontario,
Toronto.

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LUNATIC AND IDIOTIC ASYLUMS.

SEVENTEENTH ANNUAL REPORT

OF THE

Inspector of Prisons and Public Charities

FOR THE

PROVINCE OF ONTARIO,

FOR THE YEAR ENDING SEPTEMBER 30TH, 1884.

Printed by Order of the Legislature.

Toronto:
PRINTED BY GRIP PRINTING AND PUBLISHING CO., FRONT STREET,
1884.

OFFICE OF THE

INSPECTOR OF PRISONS AND PUBLIC CHARITIES, ONTARIO,

PARLIAMENT BUILDINGS, TORONTO, NOVEMBER, 1884.

To the Honourable JOHN BEVERLEY ROBINSON, *Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:—

I have the honour to submit herewith the Seventeenth Annual Report upon the Lunatic and Idiotic Asylums of Ontario, being for the official year ending 30th September, 1884.

I have the honour to be,

Your Honour's most obedient servant,

W. T. O'REILLY,
Inspector.

ASYLUMS FOR THE INSANE AND IDIOTIC.

My report for the year ending on the 30th September, 1883, placed the number of Insane, Idiotic and Feeble-minded persons who were known to this Department as resident in the Province of Ontario at 3,047.* These persons were distributed throughout the various Asylums, in the Insane Wards of the Provincial Penitentiary at Kingston, in the County Gaols, and at their homes awaiting admission to the Asylums.

The reports received from the various institutions for the official year ending the 30th September, 1884, disclose the unpleasant fact that there is again this year a very considerable addition to the number of these unfortunates, the increase for year amounting to no less than 180.

The number of Insane actually in residence at the four asylums of London, Hamilton, Toronto and Kingston, has increased from 2,594 to 2,671, or 77—four more than the increase reported in the previous year.

* By a clerical error the number was printed in the report referred to, 3,070.

The number of Idiots and feeble-minded children at the Orillia Asylum had increased from 231 to 235. No further increase here is possible until there is more accommodation provided.

The Homewood Retreat at Guelph had 10 insane inmates in residence at the close of the year.

The insane wards of the Penitentiary had increased its numbers by two.

There were 76 persons in the common gaols, many of whom were Idiots and Imbeciles, for whom there is no accommodation at Orillia, the rest being Lunatics awaiting vacancies in the Asylums.

Besides all the above, there were applications on fyle for 202 persons for admission by ordinary process, 151 of whom were Idiots and Imbeciles; the 51 were Lunatics awaiting vacancies.

By a reference to the following tabular statement, it will be seen how these persons were distributed at the close of the years 1883 and 1884 respectively.

PLACE OF CONFINEMENT.	30th September, 1883.			30th September, 1884.		
	Male.	Female.	Total.	Male.	Female.	Total.
Asylum for the Insane, Toronto	358	345	703	352	351	703
Asylum for the Insane, London	440	455	895	450	457	907
Asylum for the Insane, Kingston	230	219	449	253	247	500
Asylum for the Insane, Hamilton	246	301	547	265	296	561
Total number of insane in Asylums	1274	1320	2594	1320	1351	2671
Asylums for Idiots, Orillia	122	109	231	123	112	235
Total number in Provincial Asylums	1396	1429	2825	1443	1463	2906
* In the Homewood Retreat, Guelph	.....	.....	.....	5	5	10
Insane convicts in Kingston Penitentiary	29	2	31	31	2	33
Insane and idiotic persons in common gaols	21	13	34	50	26	76
Total number of insane under public accommodation	1446	1444	2890	1529	1496	3025
Number of applications on hand for admission to Toronto Asylum	2	4	6	3	6	9
Number of applications on hand for admission to London Asylum	6	6	12	2	18	20
Number of applications on hand for admission to Kingston Asylum	2	4	6	4	2	6
Number of applications on hand for admission to Hamilton Asylum	10	14	24	12	4	16
Number of applications on hand for admission to Orillia Asylum	63	46	109	85	66	151
Total number of insane and idiotic persons known to this Department on 30th Sept., 1883 and 1884	1529	1518	3047	1635	1592	3227

The new cottage at Kingston was completed and opened for the reception of patients on the 1st February, 1884, thus increasing the capacity of that asylum by 60 beds; 68 chronic patients now occupy this cottage in charge of one male and two female attendants.

It is expected that the new cottage at Hamilton Asylum, which is to be known as the "East House," will be ready for occupation on the 1st November, 1884.

* A private asylum, first opened for the reception of lunatics and inebriates in December, 1883.

The following tabular statement shows the number of beds in each of the Asylums and how they were occupied on the 30th September, the close of the official year:

ASYLUMS.	Number of beds.			No. in residence on 30th Sept., '84.			Number of vacancies.		
	M.	F.	T.	M.	F.	T.	M.	F.	T.
Toronto	354	349	703	352	351	703	.....	.....	.....
London	452	452	904	450	457	907	.....	.....	.....
Kingston	255	250	505	253	247	500	2	3	5
Hamilton	266	300	*566	265	296	561	1	4	5
Orillia	109	111	220	123	112	235	.....	.....	.....
Total	1436	1462	2898	1443	1463	2906	.....	.....	.....

From the above statement it will be seen that at the close of the year Toronto Asylum had a patient for every bed; London Asylum had three more patients than beds; Kingston Asylum had five vacancies; Hamilton Asylum had five vacancies, and Orillia Asylum had fifteen more patients than beds.

On the whole, with 2,898 beds, there were 2,906 patients in residence, with 76 persons in the gaols, and 202 applicants outside awaiting admission.

To meet this demand we shall have the Hamilton cottage ready, as has been said, on the 1st November. Nothing further can be done until more new buildings are erected.

In Table No. 1 the movements of the entire Provincial Asylum population are shewn. It will be observed that an additional column has been inserted into the table this year so as to shew the totals of the Lunatic Asylums separately from those of the Idiot Asylum. The workings of the two classes of institutions are so different as to render a statistical table for some purposes valueless where the figures are massed together.

The number of persons under accommodation in the Provincial Lunatic Asylums on the 30th September, 1884, was 2,671 as against 2,594 on the corresponding date in 1883 an increase of 77, and of Idiots the numbers were respectively 235 and 231 on the same dates, an increase of 4, making the totals 2,906 for 1884 against 2,825 for 1883, an increase on the whole number of 81.

There were under treatment during the year 3,087 Lunatics and 246 Idiots, a total of 3,333 against 3,027 Lunatics and 258 Idiots; in all 3,285, an increase of 48 for the year 1884, as against an increase of 110 in each of the two preceding years.

Admissions to Asylums.

The actual number of admissions to the Asylums during the year ending 30th September, 1884, was 508, as against 543 the previous year, a difference of 35;

* Since the report was closed the new cottage at Hamilton, known as East House, has been opened, hus adding sixty more beds to the accommodation of this asylum.

but this falling off must not be mistaken for a decrease in the number of applicants. The number of patients admitted was limited strictly by the capacity of the Asylums for their accommodation. The increased accommodation created by the opening of the new cottage at Kingston became exhausted in a few weeks, and at the end of the year every Asylum bed in the Province was occupied, and there were a larger number of applicants than ever before in the gaols and elsewhere, awaiting the completion of the new building at Hamilton; so that had there been accommodation for them the year would have shewn an increase in admissions of at least 75, instead of a decrease of 35.

There have been but few transfers from one Asylum to another during the past year. On the opening of the new cottage at Kingston I directed the removal of ten patients of each sex from the Toronto Asylum to Kingston, with a view of relieving to some extent the pressure upon the Toronto institution.

The following information in respect to the nationalities, religious denominations and social state of the 531 patients admitted, including transfers, as well as of the aggregate admissions of all the preceding years since 1841, is compiled from the records of the various institutions.

Social State.	Of those admitted during year, including transfers.	Of total admissions, including transfers.
Married	268	5,746
Unmarried	263	5,831
	531	11,577
Nationalities.		
Canadian	317	4,778
English	73	1,630
Irish	68	2,934
Scotch	40	1,244
United States	11	342
Other Countries or unknown	22	649
	531	11,577
Religious Denominations.		
Church of England	115	2,905
Roman Catholic	107	2,585
Presbyterian	121	2,402
Methodist	112	2,109
Other Denominations or unknown	76	1,576
	531	11,577

DISCHARGES FROM ASYLUMS.

There has been only a slight difference in the number discharged between the year just closed and the year preceding. But while the figures in this respect are almost unchanged, the numbers discharged cured has been slightly increased.

The percentages of cures to admissions have been as follows:

Toronto Asylum	34.50
London "	30.00
Kingston "	33.03
Hamilton "	48.62

I called attention in my report of last year to the fact that the ratio of recoveries to admission in the year 1883 was the largest that had been shewn since

the year 1877. I am happy to be able to state that the returns for 1884 far exceed any that have ever been shewn in previous years It is to the very high rate of recoveries shewn by the Hamilton Asylum for this year that this large percentage is chiefly due.

Probational Discharges.

The number of patients who were allowed to return to their homes on probational leave, and the ultimate results thereof, are shewn in the following table:—

——	Males.	Females.	Total.	Males.	Females.	Total.
Number to whom probational leave was granted	.....	.....	.....	68	81	149
Discharged, recovered	31	42	73	.....	.....	.....
" improved	11	7	18	.....	.....	.....
" unimproved	.....	.....	.....	.....	.....	.....
Died before expiration of leave	1	.....	1	.....	.....	.....
Returned to Asylums	12	16	28	.....	.....	.....
Out on probation on 30th Sept., 1884	13	16	29	68	81	149

Deaths in Asylums.

The ratio of deaths in the Lunatic Asylums is calculated upon the number resident and not, as in the case of recoveries, upon the number of admissions. The percentage of deaths this year has been less than in any year since 1879, divided amongst the different Asylums as follows:

Toronto Asylum	.....	6.14
London "	.....	4 86
Kingston "	.....	4.30
Hamilton "	.....	4.11
Orillia "	(Idiot)	4.06

Table No. 2 shews the total number of deaths in the Lunatic Asylums in each year since Octobber 1, 1871, with the annual percentage of mortality based upon the average population.

Table No. 11 shews in detail the causes of death; and with three exceptions only, all were found to be from natural causes. One of these was a case of homicide in the Toronto Asylum, another was a case of a patient at home, on probation from the London Asylum, and who committed suicide. The third case was that of a patient in the Kingston Asylum "choked by food." The details of these cases will be found in the reports to this Department of the Medical Superintendents of the Asylums named, printed in another part of this volume.

Assigned Causes of Insanity.

From the returns made by the various Asylums, the following statement of assigned causes of Insanity, both predisposing and exciting, has been compiled. It seems to be always necessary on presenting this statement, to explain that the cause as stated in each case is gathered from the so-called history of the case, which accompanies the medical certificates on the admission of each patient. The

statements made as to "cause" in these cases are, to a great extent, of small value for various reasons—such as the want of knowledge of facts, carelessness in stating them, or a desire on the part of relatives to conceal important facts which should be told. Again, if a patient has been addicted to any particular vice or excess, or has recently suffered from any important accident or illness, one of these, right or wrong, is set down as the cause of the insanity; and as these histories are generally written by unskilled persons, it will be easily understood that they are, when so written, as has been said, of little value.

CAUSES OF INSANITY. In respect of the admission for the year ending 30th September, 1884.	NUMBER OF INMATES IN WHICH EACH CAUSE WAS ASSIGNED.					
	As predisposing cause.			As exciting cause.		
MORAL.	Male.	Female.	Total.	Male.	Female.	Total.
Domestic troubles, including loss of relatives or friends	1	.....	1	7	16	23
Religious excitement	.....	.....	.....	21	10	31
Adverse circumstances, including business troubles	4	.....	4	23	1	24
Love affairs, including seduction	.....	.....	.....	1	6	7
Mental anxiety, "worry"	1	.....	1	9	22	31
Fright and nervous shocks	.....	.....	.....	1	4	5
PHYSICAL.						
Intemperance in drink	4	3	7	12	7	19
Intemperance, sexual	2	.....	2	1	.....	1
Venereal disease	1	.....	1	1	.....	1
Self-abuse, sexual	5	.....	5	21	2	23
Over-work	1	.....	1	3	5	8
Sunstroke	.....	.....	.....	6	1	7
Accident or injury	1	.....	1	9	1	10
Pregnancy	.....	.....	.....	.....	3	3
Puerperal	.....	.....	.....	.....	13	13
Lactation	.....	1	1	.....	1	1
Puberty and change of life	.....	.....	.....	.....	7	7
Uterine disorders	.....	1	1	.....	11	11
Brain disease with general paralysis	.....	.....	.....	4	2	6
Brain disease, with epilepsy	4	2	6	15	7	22
Other forms of brain disease	.....	.....	.....	3	1	4
Other bodily diseases or disorders, including old age	.....	.....	.....	7	9	16
Fevers	.....	.....	.....	3	3	6
HEREDITARY.						
With other ascertained cause in combination	42	48	90	.....	.....	.....
With other combined cause not ascertained	33	24	57	.....	.....	.....
CONGENITAL.						
With other ascertained cause in combination	.....	.....	.....	.....	.....	.....
With other combined cause not ascertained	3	2	5	.....	.....	.....
Unknown	147	111	258	127	110	237
Total	249	192	441	274	242	516

Increase of Insanity.

Year.	Lunatics Admitted.	Discharged, Died and Eloped.	Remained.	Percentage.
1877	437	331	106	24.25
1878	479	335	144	30.06
1879	461	321	140	30.36
1880	507	353	154	30.37
1881	502	386	116	23.10
1882	493	401	92	18.66
1883	519	433	86	16.57
1884	493	416	77	15.61

Much interest is felt in the question of the "Increase of Insanity." The subject is one which is freely discussed by individuals, and occasionally in the press, and many are the reasons assigned, learned and otherwise, to account for it, it being always taken for granted that the "increase" is a fact. It does not appear, however, that there is any evidence to show that insanity is on the increase, while there is some evidence to prove the contrary. It is true that the insane population of the asylums is growing larger every year, and has been doing so ever since the establishment of the first asylum in the Province, more than forty years ago, the increase usually keeping pace with the accommodation afforded. But it is to be noticed that, as shewn by the above tabular statement, the rate of increase has been steadily declining for the past few years, not rapidly, it is true, but still declining. The old superstitions and prejudices against asylums are gradually disappearing in consequence of the improved administration of these institutions in respect of more modern methods of treatment, better accommodation, and publicity. It seems therefore certain that a larger proportion of the insane population is yearly coming under public care. But that does not prove that the number of insane in the country is increasing in proportion to the population.

According to the census returns of 1870–71 the population of the Province of Ontario was 1,620,851, while the number of persons of unsound mind was 4,081, or about 1 in 400. In 1880–81, the returns for which years have been received since my last report was issued, the population of the Province was 1,923,228, of whom 4,340 or about 1 in 442, were classed as of unsound mind. So far, then, as the evidence goes, the tendency seems to be in the direction of decrease rather than increase. It should be borne in mind, also, that the Census returns class Lunatics, Idiots and feeble minded persons, all under the one heading of "persons of unsound mind." The statistics cannot, therefore, be taken as showing, except approximately, the number of *Insane* in the Province.

Asylum Expenditure.

The following summary shews the gross expenditure for maintenance of the five Asylums during the past year, as well as for the year which preceded it :—

ASYLUMS.	1883.	1884.	Increase.	Decrease.
	$ c.	$ c.	$ c.	$ c.
Toronto Asylum	93,492 17	93,866 01	373 84	
London "	130,175 69	127,990 66		2,185 03
Kingston "	56,809 57	61,668 84	4,859 27	
Hamilton "	68,289 46	75,464 80	7,175 34	
Orillia "	28,328 21	29,030 99	702 78	
Totals	377,095 10	388,021 30	13,111 23	2,185 03
Less decrease at London Asylum			2,185 03	
Actual increase			10,926 20	

During the year just closed the average number of patients under accommodation in all the Asylums, exceeded the number of the previous year by 54. This fact, coupled with another, viz., a large increase in the contract price of some articles, notably flour, for which an average of $1.00 per barrel was paid in excess of the price of 1883, and potatoes, which averaged thirty per cent. higher, has led to an increase of $10,926.20, as will be seen by the tabular statement above presented.

Toronto and Orillia Asylums have remained practically stationary in their expenditure, each shewing a slight increase over the previous year, but nothing more than an ordinary fluctuation. London Asylum had a splendid yield of crops from the farm this year, and in consequence of that is able to shew a decrease in expenditure of $2,185. The chief increases are shewn by the Kingston and Hamilton Asylums, and it was at these Asylums where special causes mentmentioned above existed in greatest force. The produce of the Hamilton farm is not sufficient to have any appreciable effect upon the maintenance of the Asylum.

The average annual cost per patient, as well as the weekly rate for maintenance, is shewn in the following table:—

ASYLUMS.	1883.		1884.	
	Annual Cost per Patient.	Weekly Cost per Patient.	Annual Cost per Patient.	Weekly Cost per Patient.
	$ c.	$ c.	$ c.	$ c.
Asylum for the Insane, Toronto	132 99	2 55	132 76	2 55
" " London	145 12	2 79	142 21	2 73
" " Kingston	128 23	2 46	131 05	2 52
" " Hamilton	127 16	2 44	135 45	2 60
" " Orillia	121 57	2 33	123 53	2 37
Average cost in the Asylums	131 01	2 51	133 00	2 55

Since the year 1873 a monthly audit of accounts of the Public Institutions has been made in this office, prior to their being presented to the Treasury Department for payment. In this way the Inspector forms an accurate knowledge of the monthly expenditure, also of the wants of each Institution, and is able to keep a check upon the expenditure, which would not be otherwise possible.

In Table No. 15 will be found a statement of the prices paid for supplies, obtained under contract. The extent of Asylum purchases, and the amount

expended under contract and by purchase in the open market, together with the amount paid in salaries and wages, are shewn in the following summary :—

1.	Goods and supplies bought under the contract system	$93,525 67
2.	Cattle bought by Government buyer and slaughtered at Government slaughter-houses	55,296 25
3.	Services, etc., for which tenders could not be asked, such as Water, Gas, Repairs, Amusements, Stationery, etc	52,642 81
4.	Dry Goods, Groceries, and supplies purchased in open market	79,675 99
5.	Salaries and Wages	106,880 58
		$388,021 30

The above statement shews the whole Asylum expenditure in respect of maintenance to have been $388,021.30. From this is to be deducted the revenues received from paying patients at the various Asylums, which, during the past year, reached the sum of $48,135.18, leaving the sum of $339,886.12 as the net cost of maintaining the Asylums during the official year ending 30th September, 1884.

The following statement shews the revenue received from the Asylums each year since 1871 :—

	No. of Patients.	Revenue.	Increase.	Decrease.
		$ c.	$ c.	$ c.
For the year year ending September 30, 1871	118	14,045 30	.....	
" " 1872	139	19,255 80	5,219 50	
" " 1873	171	16,660 61	.....	2,595 19
" " 1874	182	20,035 77	3,375 15	
" " 1875	231	21,875 92	1,840 15	
" " 1876	256	21,175 93	.....	699 99
" " 1877	323	28,093 58	6,917 65	
" " 1878	334	30,103 75	2,010 17	
" " 1879	343	32,898 26	2,794 51	
" " 1880	387	37,653 81	4,755 55	
" " 1881	414	41,066 54	3,412 73	
" " 1882	475	43,937 64	2,871 10	
" " 1883	538	59,922 59	15,984 95	
" " 1884	496	48,135 18	.....	11,787 41

It will be seen that 1883 was an exceptionally high year for revenue. It arose, as stated in the last report, in a change in the system of collection, by which a large amount of outstanding arrears were collected. In 1884 some fur-

ther collections of arrears were made, but, as the statement shews, the receipts from that source are dropping back towards their normal condition.

Employment of Patients.

A change has been made in the manner of presenting the statistics of this feature of Asylum management. Hitherto the percentage of patients employed has been based upon the *average* number in residence. In this statement the calculation is made upon the *actual* number of patients resident in the Asylum during the year. I believe this method will be found to present a clearer view of the facts :—

ASYLUM.	Actual population.	Number of patients who worked.	Number of days' work done.	Percentage of patients who worked.
Asylum for the Insane, Toronto	846	456	96,185	53.90
" " London	1027	889	237,879	86.56
" " Kingston	581	445	94,001	76.59
" " Hamilton	656	370	98,416	56.40
Total	3,110	2,160	526,481	69.45

It will be seen from the table that of 3,110 insane persons who have been under treatment during the year, the very large number of 2,160 were induced to employ themselves in some way while undergoing treatment, and while I have little doubt that to the steady increase which is perceptible in this feature of asylum treatment is, in a some measure, due the very satisfactory number of recoveries shewn this year, it is but fair to say that in the Hamilton Asylum, where less than the average amount of work was done during the past year, there was the largest proportion of recoveries shewn. Inasmuch as it is strongly claimed by many high authorities that employment is a large factor in effecting cures, it will be interesting to follow this subject up in future reports.

TABLES.

Immediately following will be found 17 Statistical Tables, giving full particulars relative to all matters of interest respecting Asylum operations.

Table No. 1.—Shews the movements of the entire Asylum population for the year ending 30th September, 1884.

Table No. 2.—Shews the general movements and result of treatment of lunatics in the Asylums of the Province, during each of the eight years from the 1st October, 1876, to the 30th September, 1884.

Table No. 3.—Shews the Counties from which patients were received during the year, and the Asylums to which they were assigned.

Table No. 4.—Shews the Counties from which the entire number of patients that have been admitted to the Asylums have been received, including the admissions of the present year.

Table No. 5.—Shews the length of time the patients received into the Asylums during the year had been insane, prior to their admission.

Table No. 6.—Shews the length of residence of all patients remaining in the Asylums on the 30th September, 1884.

Table No. 7.—Shews the periods that patients who were discharged *cured* during the year, were under treatment.

Table No. 8.—Shews the periods that patients were under treatment, who were discharged *improved* during the year.

Table No. 9.—Shews the periods during which patients were under treatment, who were discharged *unimproved* during the year.

Table No. 10.—Shews the length of Asylum residence of patients who *died* during the year.

Table No. 11.—Shews the causes of death of those patients who died in the Asylums during the year.

Table No. 12.—Shews the trades, callings and occupations of those patients who were admitted during the year, as well as of the total number admitted.

Table No. 13.—Shews the detailed expenditures of the various Asylums during the year ending 30th September, 1884.

Table No. 14.—Shews the expenditure in each Asylum under the various headings, estimates, and the annual cost, per patient, under each heading.

Table No. 15.—Shews the supplies for which tenders were invited, and the prices paid for the same under contract.

Table No. 16.—Shews the number of officers and employees in each of the Asylums, classified according to the duties performed.

Table No. 17.—Shews the nature of the employment, the number of patients employed, the number of days' work done by patients, and the average work in days, per patient, during the year.

TABLE

Shewing the movements of the entire Asylum

	Toronto Asylum.			London Asylum.		
	Males.	Females.	Total.	Males.	Females.	Total.
Number of Patients in Asylums on 1st October, 1883	358	345	703	440	455	895
Admitted during the year ending 30th September, 1884	61	81	142	79	51	130
Total number under treatment during the year	419	426	845	519	506	1025
Admitted by transfer from one Asylum to another	1	.....	1	1	1	2
Total number on Asylum registers, and actually under treatment in each Asylum	420	426	846	520	507	1027
Discharged cured	20	29	49	20	19	39
Discharged improved	4	8	12	11	9	20
Discharged unimproved, or taken away by friends	6	3	9	3	5	8
Total number discharged during the year	30	40	70	34	33	67
Escaped	....	.....	.....	2	.....	2
Died	27	25	52	33	17	50
Transferred from one Asylum to another	11	10	21	1	.....	1
Total number discharged, escaped, died, and transferred during the year	68	75	143	70	50	120
Number of Patients remaining in Asylums on 30th September, 1884	352	351	703	450	457	907

No. 1.

population, for the year ending 30th September, 1884.

Kingston Asylum.			Hamilton Asylum.			Total Number of Lunatics.			Orillia Asylum.			Total Number of Lunatics & Idiots.		
Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
230	219	449	246	301	547	1274	1320	2594	122	109	231	1396	1429	2825
64	48	112	58	51	109	262	231	493	9	6	15	271	237	508
294	267	561	304	352	656	1536	1551	3087	131	115	246	1667	1666	3333
10	10	20	.....	.....	.....	12	11	23	.....	.....	.....	12	11	23
304	277	581	304	352	656	1548	1562	3110	131	115	246	1679	1677	3356
19	18	37	20	33	53	79	99	178	.....	.....	.....	79	99	178
9	4	13	1	5	6	25	26	51	1	.....	1	26	26	52
3	.....	3	.....	3	3	12	11	23	.....	.....	.....	12	11	23
31	22	53	21	41	62	116	136	252	1	.....	1	117	136	253
3	.....	3	5	.....	5	10	.....	10	.....	.....	.....	10	.....	10
17	8	25	13	14	27	90	64	154	7	3	10	97	67	164
.....	.....	.....	.....	1	1	12	11	23	.....	.....	.....	12	11	23
51	30	81	39	56	95	228	211	439	8	3	11	236	214	450
253	247	500	265	296	561	1320	1351	2671	123	112	235	1443	1463	2906

TABLE

Shewing the general movements and result of treatment of lunatics in
1st October, 1876, to the

YEAR.	Average number of patients resident.			Number of lunatics admitted each year.			Number of patients recovered in each year.			Number of patients discharged improved and unimproved each year.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
1877.....	916	903	1819	243	194	437	82	70	152	26	29	55
1878.....	954	971	1925	252	227	479	92	65	157	28	31	59
1879.....	1010	1044	2054	231	230	461	71	64	135	42	27	69
1880.....	1086	1129	2215	257	250	507	53	61	114	32	54	86
1881.....	1164	1190	2354	270	232	502	84	82	166	33	38	71
Average of five years..	**1026**	**1047.4**	**2073.4**	**250.6**	**226.6**	**477.2**	**76.4**	**68.4**	**144.8**	**32.2**	**35.8**	**68**
1882.....	1219	1238	2457	251	242	493	73	86	159	20	46	66
1883.....	2080	1300	2580	253	266	519	94	80	174	36	54	90
1884.....	1303	1331	2634	262	231	493	79	99	178	37	37	74

No. 2.

the Asylums of the Province during each of the eight years, from the 30th September, 1884.

Number of patients who died in each year.			Percentage of recoveries upon admissions.			Percentage of deaths upon number resident.			Number of lunatics remaining in Asylums at the end of each year.		
Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
67	48	115	33.74	36.08	34.78	7.31	5.31	6.32	926	933	1859
64	50	114	36.82	28.63	32.77	6.70	5.14	5.92	989	1014	2003
62	49	111	30.73	27.82	29.28	6.13	4.69	5.40	1039	1104	2143
69	73	142	20.62	24.40	22.48	6.35	6.46	6.41	1133	1165	2298
86	58	144	31.11	35.34	33.06	7.38	4.87	6.11	1199	1217	2416
69.6	**55 6**	**125.2**	**30.60**	**30.45**	**30.47**	**6.77**	**5.29**	**6.03**	**1057.2**	**1086.6**	**2143.8**
99	67	166	29.08	35.38	32.25	8.12	5.41	6.75	1249	1259	2508
92	71	163	37.15	30.07	33.52	7.18	5.46	6.31	1274	1320	2594
90	64	154	30.15	42.85	36.10	6.90	4.80	5.85	1320	1351	2671

TABLE No. 3.

Shewing the Counties from which patients were received during the year, and the Asylumns they were assigned to.

Name of County or place from which insane persons were sent to Asylums for the year ending the 30th September, 1884.	Number received from gaols under warrant of Lieutenant-Governor.	Number received from private families by medical certificates.	Total number received from the respective counties into Asylums during the year.	Assigned to Toronto Asylum.	Assigned to London Asylum.	Assigned to Kingston Asylum.	Assigned to Hamilton Asylum.	Assigned to Orillia Asylum.
Algoma District	3	1	4	2	2	.....	.....	.....
Brant	3	2	5	1	.....	.....	4	.....
Bruce	10	11	21	1	16	.....	4	.....
Carleton	20	4	24	.....	.....	24	.....	.....
Dufferin	1	.....	1	1	.....	.....	.....	.....
Elgin	4	7	11	.....	11	.....	.....	.....
Essex	4	2	6	.....	6	.....	.....	.....
Frontenac	4	12	16	.....	.....	15	.....	1
Grey	6	4	10	6	.....	.....	4	.....
Haldimand	1	5	6	.....	.....	.....	4	2
Halton	3	8	11	2	1	.....	8	.....
Hastings	5	1	6	1	.....	5	.....	.....
Huron	5	11	16	2	13	.....	.....	1
Kent	2	7	9	.....	9	.....	.....	.....
Lambton	7	12	19	.....	19	.....	.....	.....
Lanark	8	.....	8	.....	.....	7	.....	1
Leeds and Grenville	2	6	8	1	.....	7	.....	.....
Lennox and Addington	7	6	13	3	.....	9	.....	1
Lincoln	3	4	7	.....	.....	.....	7	.....
Middlesex	5	26	31	1	30	.....	.....	.....
Norfolk	4	2	6	.....	.....	.....	4	2
Northumberland and Durham	6	12	18	14	.....	3	1	.....
Ontario	2	4	6	4	.....	2	.....	.....
Oxford	4	8	12	4	8	.....	.....	.....
Peel	.....	5	5	4	.....	.....	.....	1
Perth	4	14	18	.....	17	.....	.....	1
Peterborough	4	1	5	3	.....	2	.....	.....
Prescott and Russell	4	.....	4	.....	.....	4	.....	.....
Prince Edward	1	2	3	1	.....	2	.....	.....
Renfrew	2	2	4	.....	.....	4	.....	.....
Simcoe	12	15	27	6	.....	.....	18	3
Stormont, Dundas and Glengarry	10	6	16	.....	.....	16	.....	.....
Victoria	2	2	4	1	.....	2	.....	1
Waterloo	3	7	10	3	.....	.....	7	.....
Welland	1	4	5	.....	.....	.....	5	.....
Wellington	7	13	30	5	.....	.....	15	.....
Wentworth	4	24	28	2	.....	.....	25	1
York	40	39	79	66	.....	10	3	.....
Not classed	10	19	29	9	.....	20	.....	.....
Total admissions	223	308	531	143	132	132	109	15

TABLE No. 4.

Shewing the Counties from which the entire number of patients that have been admitted to Asylums have been received, including the admissions of the present year.

COUNTIES.	Admissions of the year.	Total admissions.
Algoma	4	21
Brant	5	219
Bruce	21	178
Carleton	24	323
Dufferin	1	3
Elgin	11	222
Essex	6	149
Frontenac	16	449
Grey	10	227
Haldimand	6	149
Halton	11	196
Hastings	6	211
Huron	16	328
Kent	9	214
Lambton	19	286
Lanark	8	217
Leeds and Grenville	8	236
Lennox and Addington	13	146
Lincoln	7	270
Middlesex	31	670
Muskoka District	.....	10
Norfolk	6	150
Northumberland and Durham	18	549
Ontario	6	322
Oxford	12	271
Peel	5	232
Perth	18	263
Peterborough	5	160
Prescott and Russell	4	74
Prince Edward	3	94
Renfrew	4	68
Simcoe	27	404
Stormont, Dundas and Glengarry	16	276
Victoria	4	140
Waterloo	10	201
Welland	5	144
Wellington	20	373
Wentworth	28	668
York	79	2106
Not classed	29	358
Total admissions	531	11577

TABLE No. 5.

Shewing the length of time the Lunatics received into the Asylums during the year had been insane prior to their admission.

DURATION OF INSANITY PRIOR TO ADMISSION.	Toronto Asylum.	London Asylum.	Kingston Asylum.	Hamilton Asylum.	Total.
Under 1 month	34	31	9	31	105
From 1 to 2 months	12	12	31	29	84
" 2 " 3 "	10	16	9	8	43
" 3 " 4 "	21	9	8	4	42
" 4 " 5 "	7	5	2	2	16
" 5 " 6 "	5	2	1	7	15
" 6 " 7 "	5	2	9	3	19
" 7 " 8 "	3	3	.....	.....	6
" 8 " 9 "	2	2	1	3	8
" 9 " 10 "	1	2	2	3	8
" 10 " 11 "	1	1	.....	.....	2
" 11 " 12 "	1	.....	.....	5	6
" 12 " 18 "	2	11	3	2	18
" 18 months to 2 years	5	2	8	3	18
" 2 " 3 years	6	7	6	.....	19
" 3 " 4 "	3	3	1	1	8
" 4 " 5 "	2	4	4	.....	10
" 5 " 6 "	6	4	3	.....	13
" 6 " 7 "	4	1	3	1	9
" 7 " 8 "	1	.....	1	.....	2
" 8 " 9 "	1	1	4	.....	6
" 9 " 10 "	3	.....	1	.....	4
" 10 " 15 "	3	1	7	1	12
" 15 " 20 "	2	2	6	.....	10
" 20 years and upwards	3	.....	13	.....	16
Unknown	.....	11	.....	6	17
Totals (including 23 transfers)	143	132	132	109	516

TABLE No. 6.

Shewing the length of residence of all patients remaining in the Asylums on the 30th September, 1884.

LENGTH OF RESIDENCE.	Toronto Asylum.	London Asylum.	Kingston Asylum.	Hamilton Asylum.	Orillia Asylum.	Total.
Under 1 month	11	11	9	11	1	43
From 1 to 2 months	15	6	9	6	1	37
" 2 " 3 "	6	9	12	11	3	41
" 3 " 4 "	7	7	10	9	1	34
" 4 " 5 "	4	11	4	4	.....	23
" 5 " 6 "	20	15	11	9	.....	55
" 6 " 7 "	2	9	26	6	1	44
" 7 " 8 "	6	5	4	4	2	21
" 8 " 9 "	10	5	2	4	.....	21
" 9 " 10 "	3	7	4	6	3	23
" 10 " 11 "	6	9	.....	5	1	21
" 11 " 12 "	5	7	1	6	1	20
" 12 " 18 "	34	33	13	34	10	124
" 18 Months to 2 years	35	34	22	30	9	130
" 2 to 3 years	42	83	42	100	74	341
" 3 " 4 "	23	63	32	69	9	196
" 4 " 5 "	27	60	20	65	13	185
" 5 " 6 "	35	51	21	53	10	170
" 6 " 7 "	56	76	34	4	14	184
" 7 " 8 "	52	34	33	125	47	291
" 8 " 9 "	64	31	14	.....	35	144
" 9 " 10 "	22	32	8	.....	.....	62
" 10 " 15 "	91	125	99	.....	.....	315
" 15 " 20 "	44	28	49	.....	.....	121
" 20 years and upwards	83	156	21	.....	.....	260
Totals	703	907	500	561	235	2906

TABLE No. 7.

Shewing the periods that patients were under treatment who were discharged *cured* during the year.

PERIODS UNDER TREATMENT.	Toronto Asylum.	London Asy um.	Kingston Asylum.	Hamilton Asylum.	
Under one month	3	.....	1	.....	4
From 1 to 2 months	5	3	5	.....	13
" 2 " 3 "	9	4	5	4	22
" 3 " 4 "	3	3	4	4	14
" 4 " 5 "	10	3	4	7	24
" 5 " 6 "	3	3	3	2	11
" 6 " 7 "	2	3	1	6	12
" 7 " 8 "	1	4	1	3	9
" 8 " 9 "	3	2	1	4	10
" 9 " 10 "	1	2	.....	2	5
" 10 " 11 "	1	2	.....	.....	5
" 11 " 12 "	3	2	2	.....	7
" 12 " 18 "	3	5	6	7	21
" 18 months to 2 years	1	2	1	2	6
" 2 to 3 years	.....	1	1	4	6
" 3 " 4 "	.....	.....	.....	4	4
" 4 " 5 "	.....	.....	2	2	4
" 5 " 6 "	1	.....	.....	.....	1
" 6 " 7 "	.....	.....	.....	.....	.....
" 7 " 8 "	.....	.....	.....	.....	.....
" 8 " 9 "	.....	.....	.....	.....	.....
" 9 " 10 "	.....	.....	.....	.....	.....
" 10 " 15 "	.....	.....	.....	.....	.....
" 15 " 20 "	.....	.....	.....	.....	.....
" 20 years and upwards	.....	.....	.....	.....	.....
Totals	49	39	37	53	178

TABLE No. 8.

Shewing the periods that patients were under treatment who were discharged *improved* during the year.

PERIODS UNDER TREATMENT.	Toronto Asylum.	London Asylum.	Kingston Asylum.	Hamilton Asylum.	Total.
Under 1 month	1			2	3
From 1 to 2 months				1	1
" 2 " 3 "	1				1
" 3 " 4 "		1	3	1	5
" 4 " 5 "		4			4
" 5 " "			1		1
" 6 " 7 "		3			3
" 7 " 8 "		1	2		3
" 8 " 9 "		2			2
" 9 " 10 "	1	1			2
" 10 " 11 "			1		1
" 11 " 12 "		1			1
" 12 " 18 "	2	2	2		6
" 18 months to 2 years	2	2			4
" 2 to 3 years	3	2	1	1	7
" 3 " 4 "				1	1
" 4 " 5 "					
" 5 " 6 "	2		2		4
" 6 " 7 "					
" 7 " 8 "					
" 8 " 9 "					
" 9 " 10 "			1		1
" 10 " 15 "		1			1
" 15 " 2 "					
20 year and upwards					
Totals	12	20	13	6	51

TABLE No. 9.

Shewing the periods that patients were under treatment who were discharged *unimproved* during the year.

PERIODS UNDER TREATMENT.	Toronto Asylum.	London Asylum.	Kingston Asylum.	Hamilton Asylum.	Total.
Under 1 month	2				2
From 1 to 2 months		1		2	3
" 2 " 3 "	2		1	1	4
" 3 " 4 "	1				1
" 4 " 5 "					
" 5 " 6 "		1			1
" 6 " 7 "	1				1
" 7 " 8 "		1			1
" 8 " 9 "					
" 9 " 10 "					
" 10 " 11 "					
" 11 " 12 "	1	2			3
" 12 " 18 "		1	1		2
" 18 months to 2 years	1				1
" 2 to 3 years					
" 3 " 4 "	1	1			2
" 4 " 5 "			1		1
" 5 " 6 "					
" 6 " 7 "					
" 7 " 8 "					
" 8 " 9 "					
" 9 " 10 "					
" 10 " 15 "					
" 15 " 20 "					
" 20 years and upwards					
Totals	9	7	3	3	22

TABLE No. 10.

Shewing the length of Asylum residence of patients who *died* during the year.

LENGTH OF RESIDENCE.	Toronto Asylum.	London Asylum.	Kingston Asylum.	Hamilton Asylum.	Orillia Asylum.	Total.
Under 1 month	6	3	2	.....	.....	11
From 1 to 2 months	.....	1	.....	.....	.....	1
" 2 " 3 "	4	2	3	1	.....	10
" 3 " 4 "	1	3	1	.....	.....	5
" 4 " 5 "	1	1	1	.....	.....	3
" 5 " 6 "	.....	.....	.....	.....	.....	.....
" 6 " 7 "	.....	1	.....	.....	1	2
" 7 " 8 "	.....	.....	1	.....	.....	1
" 8 " 9 "	1	.....	1	.....	.....	2
" 9 " 10 "	1	.....	.....	.....	1	
" 10 " 11 "	.....	2	.....	3	.....	5
" 11 " 12 "	3	.....	.....	2	.....	5
" 12 " 18 "	1	2	2	4	2	11
" 18 months to 2 years	2	.....	.....	3	1	6
" 2 to 3 years	4	11	4	2	1	22
" 3 " 4 "	1	3	.....	5	2	11
" 4 " 5 "	1	2	3	2	.....	8
" 5 " 6 "	3	1	.....	.....	1	5
" 6 " 7 "	4	2	.....	.....	.....	6
" 7 " 8 "	5	1	1	2	1	10
" 8 " 9 "	1	4	.....	3	.....	8
" 9 " 10 "	2	2	.....	.....	.....	4
" 10 " 15 "	4	9	4	.....	.....	17
" 15 " 20 "	1	.....	2	.....	.....	3
" 20 years and upwards	6	.....	.....	.....	.....	6
Totals	52	50	25	27	10	164

TABLE No. 11.

Shewing the causes of death of those patients who died in the Asylums during the year.

CAUSES OF DEATH.	Toronto Asylum.	London Asylum.	Kingston Asylum.	Hamilton Asylum.	Orillia Asylum.	Total.
Anasarca	2					2
Aneurism of aorta		1				1
Apoplexy	1	5	1			7
Bilious fever					1	1
Bright's disease		1				1
Bronchitis		1	1			2
Cancer of breast	1					1
Cancer of tongue		1				1
Cerebral effusion	2					2
Choked by food			1			1
Cholera morbus		1				1
Congestion of lungs				1		1
Convulsions	1					1
Diabetes	1					1
Diarrhœa	3	2	1			6
Drowned			1			1
Dysentery					2	2
Emphysema of lungs		1				1
Enteric fever			1			1
Enteritis			1			1
Epilepsy	5	5	1	2		13
Erysipelas					1	1
Exhaustion of acute melancholia		2	1			3
Exhaustion of mania	2		2			4
Gangrene of foot		1				1
General debility				4	2	6
Haematemesis		1				1
Heart clot		4				4
Heart disease		2	1		2	5
Homicide	1					1
Marasmus	4	5				9
Obstruction of bowels			1		1	2
Paralysis	1		1			2
Paresis	5		2	4		11
Phthisis, latent	4					4
Phthisis	13	8	4	10		35
Purpura	1			1		2
Pneumonia		1				1
Removal of uterus		1				1
Senile decay, exhaustion and old age	5	3	5	5		18
Softening of brain		2				2
Stricture of bowels		1				1
Suicide		1				1
Ulceration of bowels					1	1
Totals	52	50	25	27	10	164

TABLE No. 12.

Shewing trades, callings and occupations of patients admitted into the Asylums during the year, and of the total number admitted.

TRADES, CALLINGS AND OCCUPATIONS.	Admissions of this year.	Total admissions.
Agents	1	7
Architects		1
Actuaries	1	1
Bookkeepers		22
Bakers	1	21
Bricklayers		10
Butchers	1	25
Blacksmiths	5	80
Brassfinishers	1	3
Brewers		13
Builders		4
Barbers	1	10
Broommakers		3
Barristers		3
Brickmakers		3
Bridgetenders		1
Brushmakers		1
Buttonmakers	1	1
Commercial travellers	1	11
Cabinetmakers	3	9
Consuls		1
Confectioners		6
Coopers	1	26
Carpenters	15	246
Clerks	11	186
Clergymen		32
Cheesemakers	1	1
Carriagemakers		4
Cooks		9
Carders		3
Captains of steamboats	1	4
Cigarmakers		6
Customhouse officers		5
Coppersmiths		1
Civil servants	1	2
Clock cleaners		1
Carters		3
Dyers	1	2
Dom stic servants, all kinds	31	1537
Dressmakers	5	31
Detectives		1
Druggists	1	17
Engineers		27
Editors	1	4
Farmers	101	1837
Fishermen		6
Founders		1
Ferrymen		2
Furriers		1
Gardeners	1	16
Grocers	1	8
Glassblowers		2
Gentlemen		23
Glovemakers		1
Gunsmiths		1
Hucksters		1
Carried forward	188	4283

TABLE No. 12.—*Continued.*

Shewing trades, callings and occupations of patients admitted into the Asylums during the year, and of the total number admitted.

TRADES, CALLINGS, AND OCCUPATIONS.	Admissions of this year.	Total admissions.
Brought Forward	188	4283
Hatters		1
Hostlers		5
Hunters		1
Harness-makers	3	20
Housekeepers and housewives	132	1925
Hack-drivers	1	3
Inn-keepers		13
Ironmongers		1
Jewellers		10
Janitors	1	2
Journalist	1	1
Labourers	61	1499
Laundresses	1	4
Ladies	7	49
Lawyers		18
Lumbermen		2
Lathers		1
Milliners	2	35
Masons	2	54
Machinists	3	37
Matchmakers	1	2
Millers		36
Moulders	3	25
Merchants	7	126
Mechanics		39
Music-teachers		5
Marble-cutters	1	3
Millwrights	1	1
No occupation	25	423
Night-watchmen		1
Nurses		7
Organ-builders		1
Professors of Music		10
Plasterers		3
Pensioners		5
Photographers		11
Prostitutes	1	8
Painters	4	61
Printers	4	37
Peddlers	3	27
Physicians	2	27
Pump-makers		2
Private Secretary		1
Railway Employés	1	12
Spinsters	4	122
Sailors		45
Students	4	39
Spinners		8
Sisters of Charity		2
Soda-water manufacturers		1
Stone-cutters		3
Showmen		2
Saddlers	1	7
Shoemakers	4	142
Seamstresses	4	142
Carried Forward	472	9350

TABLE No. 12.—*Continued.*

Shewing trades, callings and occupations of patients admitted into the Asylums during the year, and of the total number admitted.

TRADES, CALLINGS, AND OCCUPATIONS.	Admissions of this year.	Total admissions.
Brought Forward	472	9350
Slaters		1
Soldiers		17
Salesmen		1
Surveyors	1	3
Sail and tent-makers		2
Shopkeepers		3
Ship-builders	1	3
Teachers	8	170
Tinsmiths	3	23
Tavern-keepers	2	10
Tailors	2	110
Tanners		7
Teamsters	1	6
Toll-gate keepers		2
Upholsterers	1	1
Vinegar-makers		1
Watchmakers		6
Wood-workers	1	3
Weavers		23
Wheelwrights		2
Wagon-makers	2	7
Waiters	2	3
Unknown or other employments, and idiots	35	1823
Totals	531	11577

TABLE No. 13.

Shewing in detail the expenditures of the various Asylums during the year ending 30th September, 1884.

DETAILS.	Toronto Asylum.	London Asylum.	Kingston Asylum.	Hamilton Asylum,	Orillia Asylum.
	$ c.	$ c.	$ c.	$ c.	$ c.
Medicines	590 49	682 53	337 70	314 14	95 92
Medical Comforts and Appliances	60 87	.....	6 66	6 87	.....
Butchers' Meat	16817 52	19867 69	9506 10	11515 55	2898 52
Poultry, Fish, etc	1012 77	1358 33	540 80	696 87	197 59
Flour, Bread, etc	6850 63	9923 97	4663 16	5241 61	3175 29
Butter	4367 75	5872 06	2520 37	3729 87	1205 42
Barley, Rice, Peas and Meal	815 38	1013 74	508 76	1524 39	174 88
Tea	1756 62	1912 38	869 00	1203 31	299 47
Coffee	295 60	562 07	725 61	456 67	135 50
Cheese	482 45	521 80	93 38	626 55	4 22
Eggs	490 02	346 57	94 81	83 10	107 89
Fruit (dried)	752 61	858 34	301 81	1780 15	47 72
Tobacco and Pipes	315 95	816 76	247 45	369 79	57 99
Salt, Pepper, Mustard, Vinegar and Pickles	250 60	338 75	161 50	201 51	44 65
Sugar and Syrup	2931 66	3991 77	2029 66	2592 96	667 28
Unenumerated Groceries	1041 21	211 11	22 45	.....	56 84
Fruit and Vegetables	1589 27	899 32	473 60	2148 24	696 38
Bedding	392 32	3700 92	1551 48	885 16	261 19
Straw for Bedding	.....	740 34	63 55	346 01	140 08
Clothing	2846 49	8402 24	2857 24	2662 49	1387 06
Shoes	644 55	822 98	292 57	1305 75	414 79
Coal	6541 24	13079 90	6682 91	5880 87	653 51
Wood	1802 63	4353 85	672 00	536 14	3268 32
Gas	2253 43	2167 35	708 65	2246 10	266 91
Oil and Candles	81 87	228 45	91 48	21 69	101 21
Matches	9 85	27 50	15 00	9 50	18 90
Brushes, Brooms and Mops	185 67	459 80	136 13	364 73	70 06
Bathbricks, Blacklead and Blacking	5 00	27 55	9 00	16 77	4 20
Soap and other Laundry Expenses	968 49	897 52	891 26	856 62	556 69
Water	3877 61	.....	.....	1045 38	.....
Ice	126 00	50 00	.....	282 19	20 00
Advertising and Printing	34 33	250 82	392 30	297 37	98 33
Postage, Telegraph, and Express Charges	150 12	384 21	217 28	151 03	40 58
Stationery and Library	275 31	521 76	218 96	162 72	40 75
Furniture, Renewals and Repairs	1279 47	823 18	363 83	280 60	377 72
Iron and Tinware	277 94	630 88	.....	319 46	29 60
Crockery and Glassware	273 50	679 49	121 80	269 21	118 66
Feed and Fodder	1037 83	1009 85	900 83	2161 98	402 73
Farm Labour, Stock, Implements and Repairs thereto	633 28	1271 55	483 83	369 12	196 28
Repairs, ordinary, to Buildings, etc	648 24	1325 51	2071 79	2937 24	256 96
Hardware, etc	202 29	746 81	472 98	393 54	77 91
Paints and Oils	402 53	729 46	255 36	768 98	45 14
Legal Expenses	.....	9 93	.....	.....	27 50
Officers' Travelling Expenses	.....	139 75	13 00	120 35	58 90
Elopers, Expenses recovering	.....	41 47	20 23	10 15	.....
Freight and Duties	19 24	62 76	13 42	31 98	4 38
Amusements	191 89	329 45	204 29	186 85	25 59
Religious Instruction	169 80	108 00	39 00	.....	.....
Interments	119 00	319 00	60 00	98 00	84 50
Rent	.....	543 50	.....	439 00	640 25
Incidentals	369 65	130 23	118 00	25 00	24 24
Removal of Patients	3 75	.....	37 75	2 00	.....
Salaries and Wages	27621 29	33797 46	18500 10	17489 24	9472 49
Totals	93866 01	127990 66	61668 84	75464 80	29030 99

TABLE No. 14.

Shewing the expenditure in each Asylum under the various headings of the estimates, and the annual cost per patient under such headings.

HEADINGS OF ESTIMATES.	Toronto Asylum.		London Asylum.		Kingston Asylum.		Hamilton Asylum.		Orillia Asylum.	
	Expended under headings of estimates.	Cost per patient.	Expended under headings of estimates.	Cost per patient.	Expended under headings of estimates.	Cost per patient.	Expended under headings of estimates.	Cost per patient.	Expended under headings of estimates.	Cost per patient.
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Medicine and medical comforts	651 36	92	682 53	76	344 36	73	321 01	58	95 92	41
Butchers' meat, fish, poultry, etc	17830 29	25 22	21226 02	23 59	10136 90	21 54	12212 42	21 92	3096 11	13 17
Flour, bread, etc	6850 63	9 69	9923 97	11 03	4663 16	9 91	5241 61	9 41	3175 29	13 51
Butter	4367 75	6 18	5872 06	6 52	2520 37	5 35	3729 87	6 69	1205 42	5 13
Groceries	9132 10	12 92	10573 29	11 75	5054 43	10 74	8838 43	15 86	1576 44	6 71
Fruit and vegetables	1589 27	2 25	899 32	1 00	473 60	1 01	2148 24	3 86	696 38	2 96
Bedding, clothing and shoes	3883 36	5 49	13666 48	15 18	4764 84	10 13	5199 41	9 33	2203 12	9 37
Fuel	8343 87	11 80	17433 75	19 37	7354 91	15 63	6417 01	11 52	3921 83	16 69
Gas, oil, etc	2345 15	3 32	2423 30	2 69	815 13	1 73	2277 29	4 09	387 62	1 65
Laundry, soap and cleaning	1159 16	1 64	1384 87	1 54	1036 39	2 20	1238 12	2 22	630 95	2 68
Furniture and furnishings	1830 91	2 59	2133 55	2 37	485 63	1 03	869 27	1 56	525 98	2 24
Farm, garden, feed and fodder	1671 11	2 36	2281 40	2 53	1384 66	2 94	2531 10	4 54	599 01	2 55
Repairs and alterations	1253 06	1 77	2801 78	3 11	1938 00	4 12	3710 70	6 66	380 04	1 62
Printing, postage and stationery	459 76	65	1156 79	1 29	828 54	1 76	611 12	1 10	179 66	76
Miscellaneous	999 33	1 41	1734 09	1 93	1367 82	2 91	1584 58	2 84	885 36	3 77
Water supply	3877 61	5 48	.....	.....	.....	.....	1045 38	1 88	.....	.....
Salaries and wages	27621 29	39 07	33797 46	37 55	18500 10	39 32	17489 24	31 39	9472 49	40 31
Totals	93866 01	132 76	127990 66	142 21	61668 84	131 05	75464 80	135 45	29030 99	123 53

Table No. 15.

Shewing the supplies for which tenders were invited, and the prices paid for the same under contract.

SUPPLIES.	Toronto Asylum.	London Asylum.	Kingston Asylum.	Hamilton Asylum.	Orillia Asylum.
	$ c.	$ c.	$ c.	$ c.	$ c.
Butchers' Meat, per cwt					7 50
Flour, Fall Wheat, per bbl	5 55	5 75	5 95	5 45	6 00
Flour, Spring Wheat, per bbl					
Flour, Strong Baker's, per bbl	5 55	5 65	5 95	5 45	
Bread, per 4 lb. loaf					0 11½
Oatmeal, per bbl	4 40	4 44		5 00	4 70
Split Peas, per bbl	4 45	4 89		4 75	
Butter, Roll and Dairy, per lb	0 19¼	0 17¼	0 18⅜	0 20½	0 18
Prime Mess Pork, per bbl		18 00			
Hams, per lb		0 14			
Bacon, per lb		0 12			
Potatoes, per bushel	0 65			0 60	
Fuel.					
Hard Coal, Egg size, per ton	6 00	6 00	4 74—5 40 for Gas		
" " Chestnut size, per ton		6 30		5 50	
" " Stove size, per ton	6 25			5 50	6 90
Soft Coal, for steam, per ton	4 30	4 60		4 10	
" grates, "					
Hardwood, per cord, green	4 40	5 52			3 92
" " dry				6 25	3 45

TABLE No. 16.

Shewing the number of officers and *Employés* in each and all of the Asylums classified according to the duties performed.

OCCUPATION.	Toronto Asylum.	London Asylum.	Kingston Asylum.	Hamilton Asylum.	Orillia Asylum.	Total.
Medical Superintendents	1	1	1	1	1	5
Assistant Medical Superintendents	1	1	1	1	.....	4
Assistant Medical Officers	1	2	.....	.....	.....	3
Bursars and Clerks	2	2	1	2	1	8
Storekeepers and Assistants	2	2	1	1	.....	6
Stewards	1	.....	1	.....	.....	2
Matrons	1	1	1	1	1	5
Assistant Matrons	1	2	1	.....	.....	4
Engineers, Assistants and Stokers	5	7	3	4	2	21
Masons and Bricklayers	1	1	.....	.....	.....	2
Carpenters	2	2	1	1	1	7
Painters	1	1	1	.....	.....	3
Bakers and Assistant Bakers	2	2	1	1	.....	6
Gardeners and Assistant Gardeners	2	2	2	.....	1	7
Farmers and Farm Labourers	3	3	1	2	.....	9
Tailors and Seamstresses	2	2	1	2	2	9
Stable and Stockkeepers	.....	2	.....	1	.....	3
Butchers and Jobbers	.....	1	1	1	.....	3
Messengers, Porters and Porteresses	1	2	1	1	1	6
Cooks and Kitchenmaids	7	5	2	4	4	22
Laundresses and Assistants	5	6	2	3	2	18
Housemaids	2	8	2	2	6	20
Dairymaids	1	1	1	.....	.....	3
ATTENDANTS.						
Chief Male Attendants and Supervisors	7	10	1	1	1	20
Chief Female Attendants and Supervisors	6	7	1	1	1	16
Ordinary Male Attendants	17	21	16	15	4	73
Ordinary Female Attendants	19	26	12	16	5	78
Male Night Watches	3	3	2	2	2	12
Female Night Watches	3	3	2	2	1	11
Total	99	126	60	65	36	386

TABLE No. 17.

Shewing the nature of the employment, the number of patients employed, the number of days' work done by patients, and the average work in days per patient during the year.

Nature and Place of Employment.	Toronto Asylum.			London Asylum.			Kingston Asylum.			Hamilton Asylum.			Orillia Asylum.			Grand Total.		
	No. of Patients who worked.	No. of days worked.	Average per Patient.	Average No. of Patients who worked.	No. of days worked.	Average per Patient.	No. of Patients who worked.	No. of days worked.	Average per Patient.	No. of Patients who worked.	No. of days worked.	Average per Patient.	No. of Patients who worked.	No. of days worked.	Average per Patient.	No. of Patients who worked.	No. of days worked.	Average per Patient.
Carpenter's Shop	3	475	158	9	2684	298	6	683	113	4	884	221	1	210	210	23	4936	214
Tailor's Shop	4	905	226	3	956	318	4	944	236	2	563	281	.....	.....	.....	13	3368	251
Shoemaker's Shop	2	158	79	2	618	309	2	625	312	.....	.....	.....	.....	.....	.....	6	1401	233
Engineer's Shop	5	1565	313	4	1101	275	7	1726	246	4	1020	255	1	312	312	21	5724	272
Blacksmith's Shop	1	190	190	.....	.....	.....	1	300	300	.....	.....	.....	.....	.....	.....	2	490	245
Mason work	2	527	263	3	939	313	1	300	300	10	1103	110	.....	.....	.....	16	2869	179
Repairing roads	4	648	162	.....	.....	.....	.....	.....	.....	15	1966	131	.....	.....	.....	19	2614	132
Quarrying stone	.....	.....	.....	.....	.....	.....	.....	.....	.....	50	9476	189	.....	.....	.....	50	9476	129
Woodyard and coal shed	12	2504	208	6	1828	304	4	850	212	15	2749	183	12	3744	312	49	11675	238
Bakery	3	750	250	2	701	350	2	202	101	2	297	148	.....	.....	.....	9	1950	216
Laundry	13	1890	145	16	4932	308	9	2473	274	21	6891	328	5	1500	300	64	17686	276
Dairy	7	1304	186	2	714	357	7	898	128	5	1680	336	.....	.....	.....	21	4596	218
Butcher's Shop and Slaughter House	4	1252	313	4	1343	335	4	950	237	2	384	192	.....	.....	.....	14	3929	280
Piggery	2	730	365	.....	.....	.....	5	1435	287	4	746	186	.....	.....	.....	11	2911	264
Painting	3	900	300	4	1323	330	4	501	125	6	733	122	.....	.....	.....	17	3457	203
Farm	26	8138	313	22	6786	308	24	4608	150	8	1338	167	.....	.....	.....	80	20870	261
Garden and Grounds	30	3502	116	27	8137	301	44	6339	144	18	2036	113	4	610	152	123	20624	167
Stable	4	1460	365	4	1331	332	5	1435	287	2	360	180	1	365	365	16	4951	309
Kitchen	17	3432	202	29	8703	300	12	1675	139	11	3891	353	5	1825	365	74	19526	263
Dining Room	54	11518	213	35	10564	301	29	8046	277	22	7498	340	9	3181	353	149	40807	273
Officers' Quarters	4	1460	365	.....	.....	.....	5	709	141	.....	.....	.....	1	365	365	10	2534	253
Sewing	30	5756	156	80	24039	300	39	7009	179	12	3756	313	3	939	313	164	41499	253
Knitting	20	5069	253	171	51223	299	40	8024	200	30	8970	299	16	5008	313	277	78294	282
Spinning	1	261	261	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	261	261
Mending	56	9573	171	27	8079	290	10	2143	214	8	2704	338	.....	.....	.....	101	22499	222
Wards and Halls	131	26120	200	184	55273	300	105	25363	241	95	31633	333	23	8395	365	538	146784	272
Store Room	3	939	313	2	533	266	1	310	310	9	3148	349	.....	.....	.....	15	4930	328
Not otherwise specified	15	5159	343	153	46072	301	75	16453	219	15	4590	306	7	2191	313	265	74465	281
Total	456	96185	211	789	237879	301	445	94001	211	370	98416	266	88	28645	325	2148	555126	258

HOMEWOOD RETREAT, GUELPH.

In my last Annual Report I announced the establishment in the City of Guelph, under the provisions of 46 Vic., Cap. 28, of the first private Asylum for insane persons and inebriates in the Province of Ontario. On the 21st December, last year, all the formalities of the Act referred to having been complied with, the license of his Honour the Lieutenant-Governor was duly issued to the "Homewood Retreat" Association, of Guelph, to use the buildings and premises in that city known as the Homewood Retreat for the care and treatment of insane persons, inebriates, or persons addicted to the excessive use of narcotics.

Before the issue of the license, I had visited and minutely inspected the buildings in question, and reported them to be in every respect well suited for the purpose for which they were intended. I also reported upon the *personnel* of the proprietary of the institution, who, from their special knowledge and large experience of the public Asylums in Ontario, and in the care and treatment of the insane, appeared to me to be well qualified for successfully conducting the operations of the "Retreat."

The institution was opened for the reception of patients on the 1st January, 1884, and from the report of the medical superintendent I find that the operations of the institution as regards the movement of patients during the past nine months have been as follows:—

——	Male.	Female.	Total.	Male.	Female.	Total.
Total number of *insane persons* admitted	.....	.....	.....	10	7	17
Discharged recovered	2	2	4			
" unimproved	2	.....	2			
" on probation	1	.....	1	5	2	7
Remaining	.....	.....	.....	5	5	10
Total number of inebriates admitted	10	2	12			
" opium cases	2	.....	2	12	2	14
Discharged inebriates	5	1	6			
" opium cases	1	.....	1	6	1	7
Remaining	.....	.....	.....	6	1	7
Total number, 30th September	.....	.....	.....	11	6	17

It will be seen that during the first nine months after the opening of the "Retreat," 17 insane persons and 14 inebriates or victims to the opium habit were admitted. Of the former class nearly 25 per cent., and of the latter 50 per cent., were discharged cured.

During the period above mentioned I made two visits of inspection to the institution, and on both occasions found it to be in every respect conducted in the most satisfactory manner. There are beds in the institution for fifty patients, mostly in single rooms. The bedsteads are of wood, of modern style, and are provided with both woven wire and hair mattrasses. The rooms, which are lofty and light, are carpeted and otherwise nicely and comfortably furnished. The corridors and recesses are spacious and well ventilated, and are carpeted throughout and furnished in a manner which leaves nothing to be desired. There are two cheerful dining rooms, one for each sex, a billiard and smoking room for the

male patients, and a spacious and well furnished drawing room for the common use of patients of both sexes, where music, dancing, and all other appropriate means are employed to render the lives of the afflicted inmates as pleasant as possible, and their residence there beneficial to their physical and mental health. I am pleased to be able to say that the institution so far meets my highest expectations, and I believe is destined to form an important supplement to the public Asylums of this Province, as well as to the Dominion at large. It is the only institution in the Province in which inebriates and opium victims can be adequately treated, and but for its existence these unfortunates must either remain altogether without proper treatment, and consequently without chance of recovery, or must of necessity be at great expense sent into a foreign country.

As regards the insane persons of the wealthy class, it is manifest that our public Asylums, admirable as they are, cannot afford such persons the partial seclusion and special personal attention which they desire and are prepared to pay for. Certainly not to the same extent as a private institution, and, over and above this, it is not desirable that insane persons who can afford to pay well for comforts and luxuries should be admitted into our crowded public Asylums, to the exclusion of those who can barely afford to pay the mere cost of maintenance, or who can pay nothing at all, and for whose benefit the public Asylums are more especially intended.

The experience of the past nine months has shewn that the usefulness of the Retreat may be extended, and its practical working much facilitated by certain modifications in the existing law. The following are some of the changes which experience seems to suggest:—

1st. Sec. 40, Cap. 221, R. S. O., should be amended so as to give at least one month between the signing of the certificates and the reception of the patients; seven days is too short a time. In many cases unforseen circumstances render it impossible to have the patient admitted within the prescribed period. After the medical examination takes place and the certificates are granted, the medical superintendent has to be communicated with and a reply secured from him before the patient can be sent to the institution. It may happen that there is not a vacancy at the moment, or some other cause may occasion delay. In seven days the certificate lapses, and the trouble and expense of a re-examination is necessary. The time prescribed in the Public Asylum Act is three months. I venture therefore to think that one month is not too long in cases of private Asylums.

2nd.—The same forms that obtain in granting probational leave to patients in public Asylums should extend to private Asylums. Probational leave is generally used as a medical or precautionary measure, and the period of residence of a patient in an Asylum is often greatly shortened by its judicious use.

3rd.—Sec. 45, Cap. 142, should, I think, be so amended that certificates from duly qualified physicians registered in the provinces, other than Ontario, would be legal for this institution or any other private Asylum. The difference in the wording of the certificate under the private Asylum Act and that of the public Asylum Act would clearly seem to admit of the acceptance of certificates from the medical men of other provinces, but the provisions of the medical Act, whether intentional or not, prohibit the admission of patients except under the certificates of physicians registered under the Ontario Act. This amounts to a practical exclusion from the private Asylums of Ontario of patients from any other province in the Dominion. While such a distinction is quite necessary in respect of the public Asylums, it does not appear to be so as to private institutions. It might be thought necessary, however, in making such a change in the law to provide that the Inspector should, if any doubt was thrown upon the insanity of

any patient at any time, to order a re-examination of the patient by two Ontario physicians. It would also be provided, as an additional precaution, that certificates sent from an outside province should be attested by the seal of some authority in that province as to its validity.

It is suggested that it would be a great advantage if patients afflicted with nervous diseases such as epilepsy, hysteria, and chorea amentia, could be received into private Asylums upon their voluntary application, provided a certificate of one or two physicians certified that they were proper subjects for treatment. Patients of this kind cannot always be certified as insane although their affliction is near akin to insanity, but the placing of them in an institution of this kind would often be a great boon to themselves and their families. Such cases are admitted to Asylums in the United States upon their own application, with the most beneficial results. It would be necessary to provide that in cases of minors the consent of parents or guardians should be obtained.

The above suggestions for changes in the law regulating private Asylums emanate chiefly from the directors of the Homewood Retreat, with certain modifications of my own, but I cordially approve of them all in the form in which they are presented here.

There is, however, another point upon which there appears to be some uncertainty, viz., the powers and duties of the Inspector in relation to private Asylums when established.

It will be seen by reference to the Act that a private Asylum cannot be licensed under its provisions, except upon a report as therein provided, by the Inspector. As to the duties or powers of the Inspector in regard to the Asylum *after* it is established, the Act is silent. It is wisely provided that such Asylums shall be under the supervision and inspection of a local board of visitors. It is felt, however, to quote the words of the directors of the Homewood Retreat in their prospectus, "that these institutions should at all times be open to the most "searching oversight and inspection, by competent persons entirely unconnected "with the proprietory."

Experience in Britain as well as in the United States has taught that local visitors, while serving their purpose admirably up to a certain point, do not meet all the requirements. These boards are composed of private gentlemen of standing in the community, each having his own affairs to attend to, but they are not experts, and from the nature of things can have comparatively little opportunity of qualifying themselves with that knowledge of the details of Asylum management which are so necessary to the performance of the duties required. It has therefore been found desirable, in the public interest, to surround private Asylums with all the safeguards against abuses which are applied to public Asylums.

I have been advised that, by inference, the law now invests the Inspector with all the powers in respect to private Asylums with which he is invested in respect to public Asylums, but as the matter is not clear I have only used the powers in cases where there could be no doubt, preferring to leave all doubtful matters to be settled by the Legislature if, in its wisdom, it considers any amendment necessary.

I am, however, strongly of the opinion that all private Asylums should be subjected to inspection and supervision by the Government Inspector, in the same way in all respects as are the public Asylums of the Province, with the single exception of the financial management, with which the Government has no concern. Such an arrangement could not fail to increase the public confidence in the efficient and humane administration of institutions of this class.

This view of the matter seems to be in accordance with the provisions of the Act for the establishment of an Hospital for the reclamation and cure of habitual

drunkards, which are made to apply to private Asylums, and the former Act confers powers and duties upon the Inspector which can only be properly performed by an inspection of the institution and its inmates.

London Asylum.

I visited this Asylum on the 12th January, 1st April, 14th July, 29th July, 20th September, and 1st November, and on each occasion spent some days in making inspections and transacting general business connected with the institution.

There has been no material change in the condition of this Asylum during the past year. Its 904 beds are always kept well filled, and there are always applications for admission awaiting vacancies as they occur from discharges and deaths. The general health of the inmates of the institution has been excellent during the year. On the September inspection I checked the patients' roll. There were on that occasion 909 names on the books, but 11 of the patients were at their homes on probational leave, so that there were 898 in actual residence. I saw and spoke personally to each one of these, either in the dormitories, or workshops, or in the fields and garden. Of all this large number of patients there were only 12 males and 25 females found in bed; all the others who were physically able were spread over the buildings and farm, each one, according to his ability or taste, employed in some way, and generally in some useful way. Of those who were in bed, some were aged persons, who were there from feebleness or choice. Others were paralytics, consumptives, etc., but there were none suffering from any acute disease.

The most notable event of the year was the opening of the new chapel for divine worship. This chapel, which is of very neat architectural design and capable of seating comfortably 400 persons, is now used on Sundays for service. There is a Protestant service at nine o'clock every Sunday morning, and a Roman Catholic service on each alternate Sunday afternoon at three o'clock. The chapel is well filled at every service.

In the matter of structural improvements, a good many have been made during the past year, which will be found detailed in the report made to me by the Medical Superintendent, Dr. Bucke.

In the same report will be found set forth the chief wants of the Asylum for the ensuing year. Amongst these, the one of greatest importance is that of drainage, involving, as it does, the health of the patients and employés of the institution, as well as the expenditure of a very considerable sum of money.

The London Asylum was built upon a farm of 200 acres on the road leading east from the city of London, about three miles from the centre of the city. The farm is situated in the midst of what is almost a level plain, there is very little fall indeed in any direction for drainage, and there is no large stream near into which drainage could be carried. Two quite small creeks run past the Asylum; one, on the east side, runs in a southerly direction, and empties into the south branch of the river Thames a short distance above London; the other, on the west, runs through the village of London East, thence through the city of London, and empties into the north branch of the Thames, near Carling's brewery.

When the Asylum was built the drainage was conducted in a south-easterly direction to a point near the first-named creek, where settling tanks were constructed designed to catch the solid matter of the sewage and allow the liquids to overflow into the creek, but these tanks after a short time were found to be ineffective and their use was abandoned, and the result is that now the sewage from the main building and north branch flows into the creek, about three miles from the point where it empties into the Thames. The three cottages and

the medical superintendent's house, etc., are drained in the other direction, and this sewage, which is not so great in volume as the other, falls into the creek on the west side and so into the north branch of the river Thames.

This question of sewage is one of no small difficulty. I have given much thought to the subject, and have discussed it with those whom I have met who have had knowledge and experience of such matters. So far as I have been able to form a judgment on the matter, I have come to the conclusion that the best solution of the difficulty would be to join with the city of London and London East in a comprehensive system of drainage, the Asylum sewer to connect at its western extremity with the eastern end of the London system; but this involves the construction of the London system by that city, and the subject is only under discussion at present. We can, therefore, do nothing in this direction until London has decided its part of the question.

The next best plan, and indeed the only other plan, would be the construction of a system by which the whole of the sewage could be retained and utilized on the Asylum farm. Either of these plans will cost a large sum of money, but one or the other must be adoped very soon.

I give my preference to the first plan because, once done, it is permanent, and by it we should get finally rid of the whole of the sewage without further expense. The second plan, while being not entirely free from sanitary objections, will entail a constant expense and trouble in the working as well as for repairs, which, in my opinion, will not be covered by the value of the sewage to the land as a fertilizer.

Kingston Asylum.

Inspections of this Asylum were made by me on the 23rd January, 21st April, 16th June, 6th August, and 20th November. Several days were occupied with each inspection, during which I visited every part of the buildings and grounds. I also made two visits to the Asylum, with special reference to an outbreak of typhoid fever which occurred there in the early spring. I mentioned in my last report that the water supply which comes from the lake in front of the Asylum had been found on analysis to be impure and unsafe, and that I had ordered a Hyatt filter from Newark, N.J., after satisfying myself by personal inspection of the filter that it was capable of doing the work required. It was expected that the filter would be in operation before the opening of spring, and the water had again become polluted by the spring freshets, but the Newark firm having contracted with a Kingston firm to construct the large iron shell of the filter, the latter firm so delayed the work that the filter was not in its place until the month of May. This annoying circumstance left the patients for another spring to drink the polluted waters, with the result, possibly from this cause, of the outbreak of fever above mentioned.

Immediately upon the fever being reported to me I visited the Asylum, and from investigations then made I was led to doubt whether the outbreak was entirely due to the impure water, and rather suspected that defective drainage might have something to do with it, but the season was not far enough advanced then to permit a thorough examination to be made. I returned, however, to the Asylum at a later date, accompanied by Drs. Oldwright and Rae, of the Provincial Board of Health, and Mr. Kivas Tully, Government Architect, with a view to a thorough examination of the whole institution and to having the advice and assistance of gentlemen so thoroughly qualified for such work as those who accompanied me. The result of this investigation was that several very grave defects were found in the drainage of the Asylum as well as in the plumbing. A full report of these investigations will be found in the Report of the

Provincial Board of Health of this year, and also in that of the Medical Superintendent of the Asylum. Suffice it to say that all the defects which were discovered were remedied, and about the same time the new filter was put into operation, and from that time the fever disappeared. It is now a moot question whether the fever was caused by the impure water, the defective drainage, or both. There can be no question that the water was impure, but probably no more so then than it had been every year since the Asylum was built, so far as can be known, but then, there had always been more or less fever and diarrhœa about the institution but never a serious outbreak before. Neither can there be any question that the drainage was defective, but then it had probably been so for years undetected, so that as either cause was sufficient to account for the disease, either may have caused it, or both combined.

The Kingston Asylum was built 25 or 30 years ago by the labour of the convicts of the Penitentiary hard by, for a convict Asylum. In 1877 it was transferred by the Dominion Government to the Province of Ontario for provincial purposes. At the time of the transfer a complete set of the plans and specifications of the building was not obtainable, consequently the Provincial Architect's knowledge of the drainage, etc., was necessarily limited. There was no one about the Asylum who had been there at its construction, hence when a systematic investigation was made, drains and cesspools were found choked and foul, the existence of which had not been suspected before, quite sufficient to cause all the mischief that occurred. Seventeen persons were attacked by the fever, but there was only one death.

On the 1st February, the new cottage a short distance on the west side of the main building was opened for occupation. This cottage, which now contains 68 patients, is furnished with iron bedsteads, spring wire beds, and hair mattresses; in all respects this cottage is a model one, and is the best one owned by the Province.

In March a fire occurred in the stables by which a part of the stabling was destroyed, as well as some harness, etc., all fully covered by insurance; there was, therefore, no loss to the Government by the fire, although there was and still is much inconvenience felt by the Asylum, as the building has not yet been reconstructed by the Public Works Department. The system of fire protection provided for this Asylum had a trying test on the occasion of this fire, it was found to be quite equal to the occasion, and by its efficient working an extensive conflagration and much loss of valuable property was prevented.

The non-use of restraint has, as will be seen from the report of the medical superintendent, became an established principle in this Asylum and is practised with success. The remarks on the subject in the report of the Medical Superintendent will be read with much interest.

On the 6th August I checked the patients' roll, and saw personally every patient in the Asylum. There are 505 beds in this institution, and at this inspection there were 493 patients in residence. Of this number, one male and three females only were found in bed; in fact, since the introduction of the water filter and the reconstruction of the drainage and ventilation, the health of the inmates has been exceptionally good.

The wards of this Asylum, especially on the female side, always present a pleasant and cheerful aspect to the visitor. Although every article of wearing apparel, used by the patients here, except men's caps, are made in the institution by the labour of the patients themselves, there is no sewing room and no sewing machines on the female side; all the work is done in the wards, and it is particularly pleasant to find the patients sitting here and there, singly or in groups, busily engaged in sewing, knitting, or other work. A large number of rag mats are made

and used in the wards, and with their bright colours and pretty designs add very much to the appearance of the halls and dormitories. All this work is done under the superintendence of the matron, with the assistance of the chief female attendant and staff. There are no paid seamstresses; the only paid person in the clothing department is the tailor, and he supervises the shoe shop as well. In the tailor's shop there is one sewing machine for heavy work, all the rest is done by hand work.

Kingston Asylum, the smallest public Asylum in Ontario, has always been inadequate as to extent of accommodation for the district assigned to it. Lunatics from all that part of the Province east of the County of Hastings are supposed to be lodged in that institution, and although it has not always been possible to adhere closely to the district system in the assignment of patients, it is very desirable for the convenience of the friends of patients who desire to visit them that the lunatics should be as far as possible provided for in that Asylum which is nearest to their homes, and this plan is always followed as nearly as circumstances will permit. Moreover, since the population of this Asylum has so largely increased, the room, or hall in the main building, which is used for divine service on Sundays, and for amusements on week days, has become inadequate to the wants of the patients who desire to attend either the one or the other.

The rear extension of this Asylum, which contains the kitchens, bakery, storerooms, etc., is only one storey high. It is strongly built of dressed stone, and the foundations are quarried out of the solid rock. I respectfully recommend that an additional storey be added to this part of the building, which can be made to contain dormitories and day rooms for forty additional patients, as well as a larger hall for religious services. In this way an increase of accommodation can be provided in less time than a new Cottage could be erected, and at much less cost. I am informed by the architect of the Public Works Department, that the proposed addition, including steam-heating and plumbing, would cost about $12,000. This plan is the more feasible just now, inasmuch as the roof of this part of the building has fallen into disrepair, and would require renewal in any case during the coming year. Plans and specifications have been prepared for this work, which could be commenced on the opening of spring, and completed in two or three months.

Hamilton Asylum.

The works connected with the construction and furnishing of the new cottage at the Hamilton Asylum have necessitated an unusual number of visits to this institution during the year, but none were of long duration. This Asylum is so near Toronto that it is found more convenient to make frequent short visits, rather than fewer and longer ones.

The new cottage, to be called East House, was not completed by the contractors by the time specified, but at this writing, 30th December, I am able to state that it was opened on the 1st November and occupied by chronic patients. It is intended that this cottage shall be used entirely for acute cases, but as floors laid by the contractor did not appear to the architect as having been properly done and of proper material, and might have to be relaid, and the heating apparatus was not working in an entirely satisfactory manner, which might necessitate a reconstruction of the chimnies, it was not thought advisable to occupy the building with acute cases until these matters were adjusted.

There have been a considerable number of important structural changes made in and about the Hamilton Asylum during the past year, in preparation for the increased population expected on the completion of the new cottages, prominent amongst which are the changes in the laundry and kitchen. An addition to the

rear extension of the main building has been completed, which consists of a new laundry, drying room, and sleeping rooms for employés. The old laundry has been converted into a kitchen, and the height increased by taking out the ceiling and floor above. There is now a fine airy kitchen, with a height of twenty-four feet, and thoroughly ventilated. The old kitchen has been converted into a storeroom. A large quantity of concreting has been done in the basement, the main hall, the general stores, the matron's store, the bakery, and several other basement rooms have been concreted in consequence of which the rats have been obliged to seek other quarters.

A more detailed description of the various improvements, as well as a list of the chief wants of the institution, will be found in the report of the medical superintendent.

One of the greatest wants of this Asylum is more land. After deducting that which is occupied by buildings, the ornamental grounds and the side of the "mountain" which cannot be cultivated, there is only some fifteen or twenty acres left of arable land, and that of not very good quality for the most part, which is available for farm purposes. As a consequence, little assistance from the of raising vegetables and other crops accrues to the Asylum, and the opportunity of utilizing a large quantity of Asylum labour which would be available if there was sufficient land on which to employ it is lost. The Government has been offered some very desirable farm land adjoining the Asylum property on equitable terms, and I cannot too strongly urge the desirability of securing that which would be such a valuable acquisition to the Asylum.

Another most important want is an appropriation for the erection of new barns and stables, etc. The present outbuildings are of wood and very much too small. They were designed to meet the wants of the Asylum when its population was very much smaller than it is now, besides which, by the extension of the Asylum buildings these outhouses are now so close as to be a nuisance to the patients, and to endanger the health of the institution. New and more extensive buildings of brick, in a more suitable location, are very much needed.

On the 29th September and following days I checked the patients' roll, and saw all the patients personally. There were 561 patients on the register, 265 males and 296 females, all of whom were in actual residence except one female who was at home on probational leave. The patients were all well clothed and in good health. Only one male and five female patients were found in bed, and they were old people for the most part very feeble, and others from choice. There were no patients ill from any acute disease.

Toronto Asylum.

Mr. Christie's Reports of Inspectors.

Asylum for the Insane, Toronto.

Sir,—I beg to report for the information of His Honour the Lieutenant-Governor in Council, that my first official inspection of the Toronto Asylum for the Insane, for the current year, was made on the 28th March.

At the time of my previous inspection (11th November, 1883) there were 709 patients in residence, and the following table exhibits the principal matters of interest in relation to the changes which have taken place and the movements of the population of the institution since the date named.

	M.	F.	Total.	M.	F.	Total.
Remaining in, November 14, 1883				360	349	709
Admitted from Nov. 14, 1883, to March 28, 1884—						
By Lieut.-Governor's Warrant	10	7	17			
By Medical Certificate	11	16	27			
				21	23	44
Total number under treatment				381	372	752
Discharged from Nov. 14, 1883, to March 28, 1884—						
Recovered	8	12	20			
Improved	3	3	6			
Unimproved	2	1	3			
Total discharged—						
Died	6	10	16			
Eloped						
Transferred						
				19	26	45
Remaining in, March 28, 1884				362	346	708
Out on probation	1		1			

No. of pay patients admitted from November 14, 1833, to March 28, 1884 20

No. of free " " " " 24

It is worthy of note that while there have been 44 admissions from the former date up to 28th March, 20 recoveries are recorded during that time, or about 45 per cent. of the admissions, which is a gratifying record for the term.

For the same period there were 16 deaths out of 753 patients, or about 2 per cent. of the whole number under treatment.

Six patients were confined to bed at the time of my visit, three males and three females. Of the former two were said to be afflicted with pansis, and the other was an old man 78 years of age, prostrated on account of general infirmity. The three sick women were not confined to bed in consequence of any serious malady. One was an aged person without any very specific ailment.

My visit extended to every apartment of the institution both in the main and detached buildings, as well as the enclosures.

The storerooms, bakery, laundry, barns, stables, outhouses and wood yard were found in good order. The patients were at work in these several departments, and in the enclosure doing farm and garden work, as intelligently as sane people, although they were quite insane on some points. In all the wards, whether employed or otherwise, the patients were quiet and orderly.

In company with the Superintendent an examination was made to determine what the more immediate requirements were in furniture and furnishing for the present season, for which appropriation has been made.

The dilapidated condition of quite a number of the bedsteads in wards 5 and 6 and 7 and 8 warrant their replacement as soon as a supply of the proper description of iron bedsteads can be got..

The carpets in the sitting-rooms in wards 11 and 13 now old, andworn, need renewal and will require say 140 yards, which the Superintendent in conjunction with the Bursar will make a selection of, due regard being had to such texture, material and pattern as will be likely to give the best wear and satisfaction in every respect.

An appropriation to cover the purchase of a new steam boiler for the kitchen having been made, the Superintendent will require the engineer to furnish specifications giving a full description of the best construction of boiler to replace the one now in use. As the present one has reached that age and condition when it cannot be expected to do service much longer, the purchase of another one will be made immediately.

Since the date of my previous visit the ordinary routine of the institution has remained undisturbed, and it is satisfactory to note that on the occasion of this visit, the strictest regard to order, cleanliness and proper arrangement was apparent in every department.

The retirement of Dr. Stephen Lett from the position of assistant superintendent of the Asylum to assume the duties of the Superintendent of the Homewood Retreat Asylum of Guelph, took place on the 31st December last, and was followed by the appointment of Dr. H. E. Buchan, who, as first assistant in the Toronto Asylum, entered upon his duties in January following.

Toronto, June 16 and 17, 1884.

On the date of my last inspection of this Asylum there were 362 male and 346 female patients in residence. Since that date (23rd March) there have been admitted by the Lieutenant-Governor's warrants seven males and nine females, and by medical certificates eleven males and sixteen females, making a total of 43, the full number under treatment between the dates named being 380 males and 371 females, or a total of 751 patients.

During this interval five persons, two males and three females, have been discharged as recovered, one male as improved, one male and two females as unimproved, making a total of nine, seventeen deaths have taken place (ten males and seven females), and twenty-one have been transferred (eleven males and ten females) leaving the present population 355 males and 349 females, or a total 704 now in residence.

The patients transferred had been received at the Toronto Asylum from the district attached to Kingston, and on the completion of the cottage lately erected at the Asylum there they were transferred to afford room for patients rightly belonging to the Toronto district.

The general condition and health of the patients was found to be very satisfactory. Three on the women's side were in bed, one of whom has been bed-ridden for a length of time, another has ulcers which confine her to her room, and the third is prostrate with lung disease.

No patient has been under restraint since the date of my last inspection, and I found no unusual excitement in the wards during my visit, with the exception of three on the women's side who were talking boisterously.

The others appeared to be in the best of temper and the majority of them were out a part of each day taking exercise either in the verandas or grounds attached to the Asylum.

The Superintendent informs me that difficulty has always been experienced in getting a large number of female patients to employ themselves at sewing, knitting, or other light work which they were capable of, and attributes the disinclination largely to the fact of a special room being set apart for the purpose.

Of late the material has been distributed in the several wards and a large number have occupied their time with it, many of those who could not be induced to work before being now the most active, and others who still remain idle are entertained by the operations of those who are employed.

The new furniture, consisting of seats, benches and carpets, lately supplied, has added much to the comfort of the patients and also to the general appearance both of the free and pay wards where it is placed. The improvement is specially noticable in pay ward No. 11, which now contained an ample supply of all necessary furniture and furnishings for the number of patients which it will accommodate.

Since the building formerly used as a carpenter shop was converted into a cottage for patients the old woodshed has been partially fitted up and used as a carpenter and machine shop, but in order to make it reasonably comfortable in cold weather it requires sheeting. The Superintendent will therefore issue his requisition for a sufficient quantity of matched pine to finish the ceilings, as the carpenter may have opportunity to do the work.

Sufficient material is also on hand with which to relay the floor of the kitchen in the main building, and, as time permits, the work of relaying this floor will be proceeded with.

An examination of the farm, live stock, implements, and crops shewed all to be in good condition and intelligently cared for, and the cereals, roots, etc., promise a fair return.

8th and 9th Oct., 1884.

My inspection of this Asylum was made on the above dates. I checked over the Muster roll and found there were 705 inmates on the morning of the second day of my first visit, as follows:

——	Men.	Women.	Total.	Men.	Women.	Total.
Remaining on June 17, 1884	.....	.....	.....	355	349	704
Admitted from June 17th to 4th October, 1884:						
By Lieutenant-Governor's Warrant	4	2	6			
By Medical Certificate	14	28	42			
				18	30	48
				373	379	752
Discharged from June 17th to October 9th, 1884:						
As Recovered	9	13	22			
As Unimproved	.....	5	5			
As Improved	3	.....	3			
Total discharges	12	18	30			
Died	8	9	17			
				20	27	47
Remaining October 9th, 1884	.....	.....	.....	353	352	705

I saw every patient in the Asylum, and found the general health to be good. Four of the male patients were in bed. One of these was ill with a periodic disease peculiar to his case, one from ordinary indisposition, and the other two were in the last stages of paresis. Three of the female patients were confined to bed from ordinary complaints.

There was no unusual excitement manifested by any of the patients during my visit, and except in the cases of three in the female wards, who were talkative and noisy, all were quiet and orderly.

In the male refractory ward the patients were very still. Not a single instance appeared of abnormal excitement or evidence of its existence within a recent period.

I noticed a patient in the female side with a bruise on her cheek, which, on enquiry, I found had been caused by the struggles of an epileptic. This was the solitary case of the kind in the Asylum. I also found that there had been no case of personal restraint since my last visit, with one exception, that of a determined suicide, and the restraint was resorted to for surgical purposes.

The clothing of the patients in both refractory wards was much worn, but in view of the fact that the old and worn clothing from all other wards is made to do service in the refractory wards before being finally disposed of for rags, its condition was no worse than might be expected under the circumstances, and what was actually in use was quite suited to the wear of the patients for the time being. Owing to the filthy habits of many of them this plan is not only economical but in every way suitable.

In order to economize room in the Asylum, it was deemed necessary some years ago to convert the two refractory wards on the female side into the one now situated in the upper part of the main building, and in consequence of this change a large number of dangerous patients are domiciled together without a corresponding increase being made in the number of attendants. To insure reasonable safety, both to the patients and attendants, another attendant is actually necessary, the present number being inadequate to perform the necessary duties and exercise proper care in the supervision of so large a number of patients of this class.

During my two days' visit I saw the food served in a greater number of the wards, and noted how it was prepared and served, as well as the quantity and quality. I also particularly observed how it was cooked and served in the refractory wards.

I found the culinary department in every way satisfactory. The bread was of very superior quality.

It was not my intention during this visit to investigate as to the requirements of the institution for the future. Such an estimate must be deferred till a later visit.

Satisfactory progress has been made in carrying forward the improvements contemplated during the present season, and since the date of my last inspection the repairs and improvements authorized have been proceeded with.

Cottage "C" has been much improved by painting the wall and woodwork in the stairway and upper dormitories. The effect of the painting in the latter is particulary pleasing, and their sanitary condition will be much improved as well as their appearance. To such an extent, indeed, is this apparent, that the Superintendent is authorized to arrange for the entire painting of both cottages in the same way. In so doing, however, the appropriation for painting is not to be exceeded, but certain other work of this kind which was contemplated may be deferred in order to effect the completion of that just mentioned.

The Asylum Carpenter and his assistant have been busily employed in laying the hardwood floors in the associated dormitories, wards Nos. 34, 6 and 8, also the sitting-rooms of Nos. 3 and 7. The bath-room and closet floors have also been laid in wards 13, 15 and 6, as well as in the basement, closet and kitchen floors. Some of the floors taken up have been down ever since the erection of the building, and were much in need of renewal. This work is nearly finished, and has been very satisfactorily done.

It was gratifying to notice that the farm products were much better in quality and a larger yield than last year. This increase is especially noticeable in the fruits of all kinds and the root crop. The potato crop this year amounts to 4,909 bushels, as compared with 1,800 bushels, which was the full return last year. An increased supply of milk has also been obtained during the past summer, due largely to the selection of superior cattle.

The Superintendent informs me that the executive duties and routine work of the institution continue to be satisfactorily performed by the officers and employés, and his statement was fully borne out by the cleanliness, order and discipline which was apparent throughout.

The Idiot Asylum.

That there has been so little change in the population of the Orillia Asylum, is due to the fact that all available space has been exhausted, not to the absence of any demand for more accommodation. The number of beds in the Asylum is 220, and these are occupied by 235 inmates. It will be noticed that there are more inmates than beds; the difference arises from the Superintendent being obliged by necessity to resort to the very objectionable expedient of (in some instances) making two of the younger inmates occupy one bed. Vacancies only occur in this institution through deaths, and in rare instances an inmate being taken home by friends. There are no recoveries, as in the Lunatic Asylums, and at present, in the absence of any system of training, very slight improvement takes place in the condition of any of the inmates.

It is impossible to arrive at any satisfactory estimate of the number of the idiotic and feeble-minded population of the Province of Ontario. The census returns, class lunatics, idiots and imbeciles all together as persons of unsound mind, and there is no other information attainable except that which comes to our knowledge through the workings of the Asylum.

We know that there are 235 inmates in the Orillia Asylum. We know, further, that there are, outside of the Asylum, 151 persons on behalf of whom applications have been made on the ground of their extreme urgency. We also know that there are in the gaols a considerable number of idiots and imbeciles, in some instances committed as such, and in others as vagrants, who are unfit to be at large, and in addition to all these, we are aware of many who are delaying their applications until the time comes when they can be made with some hope of success. Taken altogether, it is certain that if accommodation were now provided for five hundred idiots and imbeciles, it would be absorbed at once, and there would be demand for more.

But with the provision of asylum accommodation only for this class of persons, the country would not be doing its whole duty. Modern practice in other countries has gone beyond this. In this, as well as in every other country, there is a class of children, ranging from mere feeble-mindedness down to the lowest depth of profound idiocy, all of them can, when the work is begun at the proper age, be very much improved, but there are a great many of them who are capable of receiving a considerable degree of education and physical training, whereby, though

they may not be fully fitted for taking their places in the race of life beside those of sound intellects, they can be made useful to their friends and families, and be prevented from sinking into absolute imbecility, which they inevitably do under other circumstances; and even the lower grade of idiot, if not educated in the ordinary sense of the term, can be trained into harmony with the amenities of life, and his condition made much more endurable to himself and pleasanter for those about him.

In Europe, in Britain, and in the United States, institutions for the training of feeble-minded children are numerous. They are the development of comparatively recent years of individual philanthropic effort and afterwards of Governmental action, and all who have had opportunities of witnessing the enormous benefits accruing to those afflicted beings as the result of this training, have been immeasurably surprised at what has been accomplished.

Such institutions as these, like those for the education of the blind and the deaf and dumb, fill a place and do a work left untouched by the common school systems of the country, and their beneficent effects upon the happiness of many a family cannot be over-estimated. Who has not seen the child of feeble intellect, who, having utterly failed to grasp the knowledge offered him at the common school, and being branded as a fool because the system of teaching was not adapted to his mental wants, and has sunk lower and lower in the intellectual scale, until a place is asked for him in the idiot asylum because he has become vicious, dangerous, or too heavy a burden upon his friends. In his history the statement will be found that in childhood he could not *get on* at school as other children did.

The late Dr. Wilbur, the pioneer in America in the work of training the idiots, says that only about twenty-five per cent. of the whole number of trained idiots are objects of state charity, or are incapable of any useful employment, and these are not long-lived, and society is not long burdened with their care. Of the remainder he speaks as follows :—

"But by far the larger portion of the general number of idiots are of a different character. While on the one hand they approach in point of default of intelligence, such as have already been described, they are bounded on the other by persons of average human intelligencee. Of these, taken together, it may be said of them, that they are capable of some useful employment, and of acquiring habits of industry after having an appropriate industrial training. This capacity for occupation not only diminishes, to a certain extent, the future cost of their maintenance, but it adds to their happiness. With them idleness is often irksomeness, if not resulting in disagreeable or destructive habits.

"The failure in the matter of capacity for any useful occupation is the result of their want of intelligence, of their want of control of their natural organs, and upon their want of will or disposition to exercise their natural faculties and powers. Special training is therefore needed to obviate these infirmities of theirs.

"Hence, in all institutions for the amelioration of the condition of idiots, schools have been organized. And this not because the inmates are expected to become qualified to get a living by their wits, but to give them command of the faculties they have; to teach them to observe what is going on about them, to heed and understand what is said to them, and to do what they are told to do.

"The casual visitor to an asylum may go away with the impression that the mental exercises are predominant. The term 'school' sometimes applied to such institutions may have fostered the idea. However, if an enquiry is made by such visitor, he will be told at once that such exercises are only means to an ultimate end; and that, to make the pupils capable of some employment. He will be told

that all the mental training is subordinated and contributory to that main purpose. Even the amusements are made to subserve the same end."

Dr. Kerlin of Elrwyn, Pa., in a paper read at the meeting of the eleventh annual conference of Charities and Correction, held at St. Louis, October, 1884, speaking of idiots and their susceptability to improvement, says: "The wisdom and economy of their training and education are no longer a question in those communities where institutions have been established. It is now a universal admission that one of the pointings of nature is that any organized creature, from the monad upwards, may be modified for advancement or retrogression for good or ill, by the environments of its early life. None so subject to this law as human beings, and no humanity more obedient to it than the idiotic or feeble-minded child.

Faith, patience, and the peculiar attributes of feminine skill have been exercised on more than five thousand congenital imbeciles in the institutions of these United States, and the results are quite up to the reasonable expectations of those who, in the beginning, projected this work. The Ohio institution reports that 24 to 30 per centum of its inmates become capable of self-support. The Kentucky institution reports about the same percentage. If we, of the Pennsylvania institution, should count the available labour of those whom we retain on our free lists because of their service, perhaps almost the same favourable showing might be made. Of those discharged by us, 10 per centum are reported as getting along quite well and earned their living under moderate and judicious guardianship."

Efforts have been made in our Asylum at Orillia in the direction of this training, and the results produced have well repaid the trouble, but in the absence of class rooms and appliances, as well as of trained teachers, little can be done. It is to be hoped that in the new departure about to be taken, due prominence will be given to this feature.

Our Legislature maintains noble institutions for the education of the blind and the deaf mutes; surely the unfortunate deprivations of this other class of unfortunates do not appeal less strongly to the philanthropy of the people.

The main building of this Asylum is old and incapable of being put into thorough repair. It is, however, kept sufficiently comfortable for the 160 inmates who occupy it, 112 of whom are females, and nearly all the others children. The branch Asylum is a frame rough-cast building, formerly used as an hotel, and rented two years ago for Asylum purposes: 75 males occupy this building. It is a mere shelter for these people, and was taken in an emergency for three years, by which time it was then thought that a new Asylum would have been erected.

On the 14th August I checked the muster roll, and saw all the patients. None were ill or in bed, but as there is no farm and no school rooms or appliances they were for the most part leading an idle and aimless life, with little to brighten or cheer it.

I do not propose to recommend any appropriation with a view to the improvement of these buildings, inasmuch as the Government have been in negotiation for a farm on which to erect new buildings, and there are strong hopes entertained that the year 1885 may see a beginning made for supplying this long existing want.

INSANE ASYLUMS—EXTENSION AND MAINTENANCE.

The fact that the operations of the year 1884 have resulted in the addition of 77 persons to the number of chronic insane under public accommodation in the Province of Ontario, brings again into prominence the question of future Asylum extension, and coupled with it is another question, viz:—the yearly increasing

calls upon the provincial treasury for means of maintenance for these institutions.

In order that the progressive rate of increase both in numbers and cost may be clearly seen, I have prepared the following table, which shews for each year since 1873 the whole number of patients in residence, the average yearly Asylum population, the average yearly cost per patient, and the total cost for each year :

YEAR.	Total No. in Asylums.	Average Yearly Population.	Average Yearly Cost per Patient.	Total Cost for Maintenance.	Less Revenue from Paying Patients.
			$ c.	$ c.	$ c.
1873	1,780	1,525	132 11	201,478 66	16,660 61
1874	1,865	1,628	132 58	214,308 21	20,035 77
1875	1,925	1,659	131 73	218,541 35	21,875 92
1876	2,118	1,774	136 06	241,380 57	21,175 93
1877	2,390	1,942	145 13	281,843 75	28,093 58
1878	2,546	2,066	130 78	270,162 95	30,103 75
1879	2,665	2,208	129 01	286,894 37	32,898 26
1880	2,899	2,423	122 94	297,894 72	37,653 81
1881	3,065	2,584	124 98	322,971 62	41,066 54
1832	3,175	2,696	136 75	368,683 07	43,937 64
1883	3,285	2,878	131 01	377,095 10	59,922 59
1884	3,333	2,867	133 00	388,021 30	48,135 18

The steady yearly increase is here apparent and, as it is likely to continue, it will have to be provided for: and although for the past three years there has been a decline in the rate of increase, the year just closed being smaller than any of its predecessors, still it is evident that, at the rate of decrease which seems to have set in, even if it should continue, it will take many years before that point is reached when admissions, and discharges and deaths are equalized.

The new cottage at Kingston opened in February last, built for 60 patients, now contains 68. The new cottage at Hamilton, built for 60 patients also, and which was opened on the 1st November, 1884, will be quite filled by the 1st February, or at latest by the 1st March, 1885, there will then be no vacancies available except those created by discharges and deaths. Meantime no new buildings are in course of erection to supply future wants, so that unless liberal appropriations are made by the Legislature during the coming session for Asylum extension, it is inevitable that before the year 1885 is out, there will be many patients needing Asylum accommodation for whom it will not be possible to provide it.

It is proposed I believe, this year, to begin the erection of the second of the two cottages, the construction of which I had the honour to recommend

in 1883, the first having been completed. The proposed building will contain 60 beds and will cost about $30,000, but it will not be possible to have it ready for occupation at the the earliest before the spring of 1885; we have nothing therefore to hope for from this extension for the accommodation of the surplus population of 1885, which may be certainly counted upon. In view of this difficulty, therefore, I have had the honour to recommend to the government a plan for the extension of the Kingston Asylum (referred to elsewhere) by which additional accommodation can be provided for about 40 patients speedily and cheaply, to help meet the demands for the year.

In my report for last year I stated it as my belief that "not less than one-"third of the population of our asylums are people who could be discharged to-"day, if not as sane, still as sufficiently so to be cared for safely at home, or in any "refuge where a very slight degree of care and watchfulness is exercised, but "these people cannot be sent out of our asylums because they are without home "or friends, and if put outside the asylum gates they would be left to die in the "streets."

Shortly before the close of the official year I caused to be sent to the various Medical Superintendents a circular letter asking for the following information:

1st. The number of persons in each Asylum who could be safely discharged if they had homes or friends to go to, or any means of support outside the Asylum.

2nd. The number who could be safely transferred to any institution other than a Lunatic Asylum, such as a Government or County Refuge where simply care without Asylum treatment would be provided.

The replies received show that there is not less than 820 persons in the four Lunatic Asylums out of a population of 2671 who, in the opinion of the Medical Superintendents, come within the conditions named. It will be seen, therefore, that my estimate of *one-third* was not very wide of the mark.

The following are the numbers in respect of each Asylum:

	Male.	Female.	Total.
Toronto Asylum	109	99	208
London "	168	178	346
Kingston "	86	79	165
Hamilton "	55	46	101
	418	402	820

The counties from which the above 820 patients were received, and the numbers received from each county are as follows:

COUNTIES.	Male.	Female.	Total.
Algoma District	.....	1	1
Brant and Brantford	7	7	14
Bruce	9	4	13
Carleton and Ottawa	19	20	39
Dufferin	.....	1	1
Elgin and St. Thomas	10	13	23
Essex	6	9	15
Frontenac	21	15	36
Grey	9	10	19
Haldimand	6	5	11
Carried forward	.....	.....	.....

The Counties from which the above 820 patients were received, etc.—*Continued.*

COUNTIES.	Male.	Female.	Total.
Brought forward	.....	.....	.....
Halton	3	9	12
Hastings and Belleville	11	6	17
Huron	18	12	30
Kent	11	9	20
Lambton	16	11	27
Lanark	7	8	15
Leeds and Grenville	13	9	22
Lennox and Addington	4	4	8
Lincoln and St. Catharines	5	7	12
Middlesex and London	34	23	57
Norfolk	4	12	16
Northumberland and Durham	15	12	27
Ontario	8	10	18
Oxford	13	15	28
Peel	8	4	12
Perth	9	10	19
Peterborough	9	7	16
Prescott and Russell	3	5	8
Prince Edward	1	4	5
Renfrew	7	4	11
Simcoe	8	10	18
Stormont, Dundas and Glengarry	16	12	28
Victoria	6	9	15
Waterloo	6	6	12
Welland	3	7	10
Wellington	11	4	15
Wentworth	14	21	35
York and Toronto	58	63	121
Not Classified	10	4	14
Total	418	402	820

So far as I have been able to ascertain by an examination of such of the laws of the various states of the American Union as I have had access to, the different systems in vogue are for the most part arranged so as to distribute more evenly the burthen of supporting indigent persons afflicted with insanity, as between the State Governments and the municipalities than that which prevails in Ontario.

In Ontario the whole of the expense for the care and maintenance of the indigent insane falls upon the Province. In the United States the general rule is that the State provides and maintains the Asylum buildings, and pays the salaries of the medical officers and certain other chiefs of administration. All other expenses are charged against the patients' maintenance account, and a rate per patient sufficient to cover it is adopted, which is paid by the patients themselves or the municipalities to which they belong. Our system in Ontario is a broad and generous one, based upon the highest conception of public charity; but in the first place it is one that is much abused, and in the second place its volume is becoming so great that it is a fair question whether such an increasing burthen ought fairly to be borne much longer by the Provincial finances alone.

It is the theory of our Asylum system that all patients who are able to do so shall pay a fixed sum weekly for maintenance. Those who are not able to pay the full amount are expected to pay a lesser sum, according to their ability; those who are indigent are entitled to all which the others receive at the expense of

the province, and in no instance is any payment exacted where it is made to appear that, even where there is property owned by the lunatic, the actual wants of the children or other dependent ones are sufficient to absorb all the income. But, as I have said, this wide benevolence is abused. Experience has shown that false representations are constantly being made to the Asylum authorities on behalf of patients for whom admission is sought by members of their families, or by friends and neighbours. And although this practice is known to the Medical Superintendents and Bursars, it is found to be practically impossible for for them to reach such information as to the financial standing of many of the applicants as will enable them to place matters on their proper footing, consequently a very considerable number of patients are admitted free, or at reduced rates, who ought to pay the full rates.

If the powers conferred upon the county judge by cap. 220, secs. 23 and 27, R. S. O., were made obligatory in all cases where admissions as free patients are sought there would be local knowledge within his reach which would go far to prevent this particular abuse of the benevolence of the Legislature.

But there is another process by which in a strictly legal manner admission is gained to the Asylum for free patients. When the friends of an insane person find upon enquiry that they are required to give a bond for maintenance before they can secure his admission they sometimes adopt the simple plan of going before a magistrate and laying an information charging the person with being a dangerous lunatic. He is then committed to gaol, representations are made to the magistrate that the lunatic is unable to pay and has no friends able to contribute. The magistrates generally accept the statements as true without further enquiry. The prisoner is certified as insane in due course, and must then be removed from the gaol to the Asylum as soon as there is a vacancy for him. In this way also payment is evaded.

Again, an aged pauper, a charge upon the village or township in which he resides, becomes through disease or old age a demented, quite harmless, but troublesome, garrulous and noisy. He is committed to the gaol as a dangerous lunatic. Thus the township gets rid of him, but the county now has him on its hands. In due course he is certified as a lunatic, whereupon the Government takes charge of him and he is transferred to the Asylum, and so the county gets rid of him. It is soon discovered that Asylum treatment will do him no good, it is a poorhouse or refuge that he needs, but there is no legal machinery for returning him whence he came, so he must remain in the Asylum for the rest of his days.

There are in the Asylum to-day 820 persons, many of whom are such as are described above, who, as the Medical Superintendents say, might be at their homes if they had them to go to, or in some refuge where they could have ordinary care, instead of which they are in Asylums expensively organized, and which are designed for the treatment and cure of Insanity, and not for the care of harmless incurables.

If the municipalities were charged with the support of all who came from within their limits and who were not able to pay for themselves, we should have in our Asylums a less number of harmless indigents.

Whatever may be said as to the duty of the Government in caring for the acute, curable, or dangerous lunatics, I submit that the care also in expensive Asylums of quiet, harmless incurables will eventually become a burthen too heavy to be borne, and I venture to think that some arrangement will be necessary by which the counties will be charged with a share of the support of indigent lunatics from within their own borders.

The writer does not advocate the erection of poorhouses or infirmaries in the counties for the reception of these people—experience has demonstrated elsewhere

that the county infirmary system is not the best one, but would suggest the establishment by the Government of an Asylum designed specially for the shelter and care of the class of persons referred to, so that the other Asylums, or, properly speaking, hospitals for the insane, could be left to do their proper and legitimate work, viz., the treatment of acute insanity and the care of dangerous lunatics. In this way expensive asylum extension would come to an end, and the incurable indigent would be maintained at much less cost than under the present system.

As a matter of information for those not familiar with such matters, I present some short extracts from the laws of some of the American States bearing upon the maintenance of the indigent insane.

ALABAMA.—Indigent patients are admitted only after application to the judge of the probate court in the county where the patient resides. The judge being informed that there is room for the patient at the Asylum, must call one respectable physician and other witnesses, and, either with or without the verdict of a jury, at his discretion, decides the question of insanity and indigence. The physician's certificate of insanity is taken under oath.

If a paying patient, after three months, becomes indigent, and the Superintendent certifies that he is a fit patient to remain, he may be retained at the expense of the State, on the certificate of the probate judge of his county.

Indigent patients, after two years' residence in the hospital, if they are not likely to be benefited by longer treatment, and are not dangerous, may be removed by order of the Superintendent to the poor-house of the county of which they are resident. * * *

ARKANSAS.—Patients are classified into three classes:—Acute, chronic, and probably incurable. If the hospital is crowded with patients, a preference is given, in the order of admission, to the acute class, and vacancies may be made by discharging those who are probably incurable.

The sheriff of each county, before delivering any patients to the Superintendent, shall see that he or she is provided with suitable clothing to the amount prescribed.

Any person attempting to commit a patient in a way contrary to the provisions of the statute, is guilty of a misdemeanor, and liable to a fine not less than $50, nor more than $300.

Insane paupers may be taken care of in the poor-house of the county. * *

CALIFORNIA.—The judge shall inquire into the pecuniary ability of persons committed to the Asylum, and, if there is property sufficient to pay charges, the judge shall appoint a guardian to take the property and apply it to paying for the maintenance of his ward If the insane person is indigent, but has husband or wife, father, mother, or children, living within the State, having means, they shall pay for his support to the extent and in the manner prescribed for paying patients.

CONNECTICUT.—When a pauper in any town is insane, a selectman of such town applies to the judge of probate of the district where the pauper resides, asking for his admission to the Insane Hospital. The judge shall appoint a respectable physician to investigate and report the facts of the case. If the physician is satisfied of the insanity of the pauper, the judge shall order the selectman to take him forthwith to the hospital. A part of the expense of his support is paid by the town, and the balance by the State.

When a person indigent, but not a pauper, is insane, any person, on his behalf, may apply to the judge of probate, who shall appoint a respectable physician and a selectman of the town where the insane resides, to investigate the case and

report. If the judge is satisfied that the person is indigent and insane, he shall order him to be taken to the hospital by the person making the application. Half the expense of his support shall be paid by the town and half by the person making the application.

Any sum paid by a town for the support of an insane person, may be recovered from such insane person or out of his estate, if any ever comes into his possession.

Any superior court, city court, or police court, before which a person is tried on a criminal charge, and acquitted on the ground of insanity, may order such person to be confined in the Connecticut Hospital for the Insane for such time as such court shall direct, unless some person shall give bond to the State to confine such person in such manner as the court shall order. If the insane person has any property, the court shall appoint an overseer, with the powers and duties of a conservator. If he has no estate, the expense shall be paid by the town to which he belongs; if he belongs to no town, then by the State. * * *

DAKOTA.—In each organized county there shall be a board of three commissioners, called Commissioners of Insanity, two of whom shall constitute a quorum. The judge of probate is chairman of the board. The other two members shall be appointed by the county commissioners. One shall be a respectable practising physician, and the other a respectable practising attorney. In case of temporary absence, or inability to act, of two of the commissioners, the judge of probate may call in a respectable physician or lawyer to act with him.

If there is no room for a patient in the hospital, and he is not fit to go at large, the commissioners shall provide for his care, either by a special custodian to be paid for by the friends or relatives of the patient, or, if he is a public patient, they shall require him to be cared for at the expense of the county, by the commissioners of the county, or overseer of the poor. * * *

DELAWARE.—Whenever the relatives or friends of an insane person apply to the chancellor of the State, and present a certificate of two practising physicians of the county where the insane person resides, setting forth the insanity, the cause, if known, and the necessity of better medical treatment than can be afforded in the County Almshouse, the chancellor shall, if satisfied of the insanity and indigency, recommend, in writing to the governor, that such indigent insane person be removed to some Asylum in Pennsylvania. But each county shall be entitled to have only five patients so supported at any one time. The expense of such support shall be paid for by each county.

The trustees of the poor of the several counties, on the recommendation of the chancellor and of the resident associate judge, shall cause any of the insane poor of their county, whether in or out of the Almshouse, to be removed to any Hospital for the Insane in the United States, and they shall make contracts for their admission and support. The expenses shall be paid in whole, or in part, by the said trustees, so long as they judge proper.

GEORGIA.—The court convicting a pauper of insanity shall certify the fact that he is a pauper. If he has any means, or becomes entitled to any property, it shall be applied, so far as it will go, to defraying his expenses. If there is any one liable for his support the amount expended may be collected of him. Otherwise he is supported at the expense of the State.

If a patient in the asylum appears to be incurable, but at the same time harmless, he may be discharged by the Trustees of the Asylum, or remanded to the care of friends and relatives. Pauper patients shall not be discharged without proper clothing and a sum of money necessary to carry him to their residence or to the county from which they were sent.

ILLINOIS.—All patients residents of the State, may be kept free of charge (each county paying for the support of its insane patients.) If a patient is able and willing to pay for his support he may do so.

The judge of the county court is to see that pauper patients are removed from the hospital when required by the trustees. Patients not paupers are removed by their friends, who must give bonds to do so upon admission. If a patient is not removed as required the Superintendent may send him to the place from which he came. * * *

INDIANA.—Patients are entitled to treatment at the expense of the State, in the State Asylums; but County Asylums may also be provided by the county boards.

The Superintendent of the hospital, on receiving the application of the clerk, shall determine from the same whether the case is recent and presumably curable, or chronic and less curable, or idiotic and incurable. If the case is recent and curable, the Superintendent shall grant admission; if the case be chronic, whether curable or incurable, admission shall be granted, provided there is room.

In the selection of chronic cases, each county is to have its due proportion, according to its population, and priority of application shall be considered.

The clerk shall see that there is a proper supply of clothing for the patient, and, if the same is not otherwise furnished, it shall be paid for by the county, as also the funeral charges, if the patient dies at the hospital. * * *

IOWA.—Each county shall pay the expense of its own patients, and the State shall pay for patients who have no settlement. * * *

KANSAS.—To determine who is to bear the expense, the probate judge shall make an examination of the property, and if he finds that the insane person has no estate, or not more than enough to support his family, shall make a certificate to that effect, and the expense of his support shall be borne by the county. * *

KENTUCKY.—In order to relieve the Asylum from having too many patients all pauper idiots, epileptics, and harmless, incurable lunatics shall be returned by the Asylum to their friends or to the several counties from which they were sent. A commission, consisting of the President of the board of commissioners of each Asylum, the Superintendent and one other of the commissioners, shall investigate and determine what patients are fit to send back. Such patients are to be taken care of either by their county committee, or by their friends, or at the expense of the State, as the case may be. * * *

MAINE.—The officers ordering the commitment of a person unable to pay for his support may certify to the trustees the fact, and that he has no relatives able and liable to pay for it. In such cases the State shall pay $1.50 a week for his board and the balance shall be paid by the patient, or by the town where he resides.

Patients who have no means of their own and are without relatives liable for their support, if they belong in towns having less than two hundred inhabitants, shall be supported in the hospital at the expense of the State. * * *

MARYLAND.—Each county is allowed in the insane hospital its due share of inmates in proportion to its population.

When any person is alleged to be a lunatic, or insane pauper, the circuit court for the county where he resides, or the Criminal Court of Baltimore, if he resides there, shall cause a jury of twelve men to be empanelled to enquire whether such person is insane or lunatic. If he shall be found so, the court shall cause him to be sent to the almshouse of the county or city to which he belongs, or to a hospi-

tal, or to some other place better suited to his condition, there to be confined, at the expense of the county or city until he has recovered.

No person shall be supported as a pauper lunatic if he has any property, nor shall a person who is living with his parents be so supported, if they have property assessed as high as $1,000.

MASSACHUSETTS.—Pauper lunatics having no known settlement shall be supported at the expense of the State: other pauper lunatics by the towns or cities where their settlement is. Amounts paid by the State, or by a city or town, may be recovered of any person legally liable to support the lunatic. * * *

MICHIGAN.—When a person, indigent, but not a pauper, appears to be insane, application may be made to the judge of probate of the county where he resides. The judge of probate shall notify the Supervisors of his county of the result of the proceedings, and they shall raise the money required for the patient's support.

When an indigent insane person has been sent to the Asylum by his friends who have paid his bills there for three months, if the Superintendent certify that he is a fit patient, the supervisors of the county of his residence are required to defray the expenses of his remaining thereafter.

If a patient has no legal settlement in any county or township, the expense of his support in the Asylum shall be paid by the State.

So long as there is room for the insane in the wards of the State Asylum, it shall be illegal to consign any insane person to the county almshouse.

No patient shall be discharged without suitable clothing, and if not otherwise provided the Steward shall furnish it, and also money not exceeding $20.00. * * *

MINNESOTA.—Any insane person a resident of the State may be admitted to the hospitals and maintained at the public expense free of charge to his or her relatives or friends, and all shall be treated as public patients. * * *

MISSISSIPPI.—Any person being a lunatic and resident of the State may be admitted into the Asylum free of charge, the expenses of removal to be paid by the county from which the insane person was sent, or in which he had his settlement; but if the patient is able he shall pay for the expense of his removal.

If any patient is found incurable, but harmless, the Superintendent shall have him removed to the county where he belongs, there to be cared for by his guardians or his friends, or, if he is poor and has no friends who are liable, he shall be maintained as a poor person by the county. * * *

MISSOURI.—The indigent insane of the State shall always have the preference over those who have the ability to pay if there is not room in the Asylum for all the insane persons in the State. Recent cases (of less than a year's standing) shall have the preference; but no county shall have in the institution more than its just proportion, according to its insane population.

County patients are admitted as follows:—

The several county courts shall have power to send to the Asylum such of their insane poor as may be entitled to admission. The counties thus sending shall pay semi-annually, in cash, in advance, for the support of their poor, the price of board to be fixed by the board of managers. * * *

NEBRASKA.—If a patient has a legal settlement in any county his expenses shall be paid by that county. If he has no legal settlement his expenses shall be paid by the State. * * *

New Hampshire.—Any insane person committed to the Asylum by his parent, guardian or friends who has no means of support, and no relatives of sufficient ability chargeable therewith, and no settlement in any town, and who is unsafe to be at large shall be supported by the county from which he is committed. * * *

New Jersey.—Each county shall be entitled to send its just proportion of patients.

Whenever a pauper in a county entitled to send patients to the Asylum may be insane it shall be the duty of the overseers of the poor in the township where he resides to apply to a judge of the Court of Common Pleas of the county. The judge shall call one respectable physician and make an investigation, and, if satisfied that the disease is of such a nature as may be cured, he shall make a provisional order that the pauper be taken to the Asylum and kept until restored, if this be effected in three years. Before the order shall take effect it shall be submitted, with the other papers in the case, to the "chosen freeholders" of the township where such lunatic is found, who, if they are satisfied that the lunatic has a legal settlement in their county, shall endorse their approval upon the order, and it shall be executed and the pauper taken to the Asylum. Copies of all papers and proceedings shall be sent to the Superintendent of the Asylum. The case shall also be reported to the board of chosen freeholders, who shall raise the money for the pauper's support in the Asylum. Town and county officers sending patients to the Asylum shall see that he is provided with suitable clothing. Money paid for the support of an insane person can be collected from his estate or from the persons liable to maintain him.

The expenses shall be collected out of the estate of the lunatic, or, if he has no estate, they shall be paid by the township or county, according as he has a setlement or not. * * *

New York.—If a pauper becomes lunatic the county superintendents of the poor of the county or town where he is chargeable may send him to any State Lunatic Asylum by an order under their hands.

If any person not a pauper but in indigent circumstances, becomes insane application may be made to any county judge, special county judge, judge of a Superior Court of Common Pleas of the county where he resides, and the judge shall investigate the facts in the case, both as to indigence and as to insanity. If the judge finds that there is reasonable cause he shall fix a time and place for a hearing, and give notice to one of the superintendents of the poor of the county chargeable with the expense of supporting such persons in the Asylum, and shall then proceed to ascertain when such person became insane. The judge may require the friends of the patient to give security to remove him from the Asylum as soon as he shall recover. If such patient has not recovered at the end of two years, the managers of the Asylum may cause him to be returned to the county from which he came. The judge shall file all the papers in the case, together with his decision, with the clerk of the county, and report the facts to the supervisors, who shall provide the money for the support of such indigent lunatic.

If the expenses in the Asylum on an indigent insane patient, not a pauper, have been paid by his friends for six months, and the Superintendent shall certify that he is a fit patient and likely to improve, the supervisors of the county of his residence are required, upon a sworn application, to defray his expenses for remaining another year. And they shall repeat the same for two years more, upon like application, and the production of a new certificate from the Superintendent. * * *

North Carolina.—Costs and expenses incurred in regard to a patient shall be paid by the county, unless the patient or those liable for his support have means to pay. * * *

Ohio.—Each county is entitled to send patients to the State Asylums in proportion to its population. No person is entitled to admission unless he has lived in the State one year next preceding the date of his application and his insanity appeared while he resided in the State

Patients in the Asylums shall be maintained at the expense of the State.

When a patient is sent to the Asylum the probate judge shall see that he has the proper amount of clothing.

Incurable and harmless patients may be discharged by the Superintendent and one trustee when it is necessary to make room for a recent case from the same county. The Superintendent shall notify the Probate Judge, who shall by his warrant order the removal of the patient to the township of which he is an inhabitant.

Pennsylvania.—The trustees of any Asylum for the Insane where there are women detained may appoint a skilful female physician to have charge of the female patients.

The expense of caring for indigent insane persons in the State Hospitals shall be divided between the State and the county, the county not paying for each person over two dollars a week.

Rhode Island.—The expense of caring for any such lunatic shall be paid out of his estate, if he has any; if he has no estate, then by the town liable for his support. * * *

South Carolina.—No patient shall be admitted to the Asylum until the expense of one-half year, or of such shorter time as the nature of the case seems to require, shall be paid in advance. A bond shall be given to secure the payment of all expenses; but such bond shall not be required of the county commissioners sending a pauper patient to the institution.

Whenever any lunatic or epileptic shall have recovered it shall be the duty of the regents to discharge him from the Asylum. Upon due notice from the Superintendent of the Asylum the county commissioners of the various counties shall remove their imbeciles from the Asylum, and shall take care of such persons in their respective county poorhouses.

It has been recently enacted that before any insane person not offered as a pay patient is admitted to the Asylum the county commissioners shall investigate and see upon what footing the patient shall be admitted, and whether or not he is able to pay some part of the expense of his support. * * *

Tennessee.—Each county is entitled to send to the Hospital its due proportion, both of private and pauper patients, according to its population and the number of its insane, but not more than one non-paying patient to each four thousand inhabitants.

Vermont.—Insane town paupers or insane persons in indigent circumstances shall be supported by the town where they belong at the Vermont Asylum for the Insane.

The select men may make contracts with officers of the Asylum for their support. If a person is insane and his property is not sufficient to support himself and his wife and children, his wife may complain to the County Court in the county where such insane person has his settlement, and the court, after a hearing, may order the town to support the insane person at the Asylum. In certain cases

the State will pay a part of the expenses of poor patients placed in the Hospital by the select men of a town. * * *

Virginia.—On an application on behalf of a person for his admission into an Asylum the examining board (Directors of the Asylum) if unanimous that he ought to be admitted, may receive him as a patient therein, provided sufficient security is given for the payment of the patient's expenses, and his removal when required. * * *

Wisconsin.—No person not deemed dangerous when at large shall be committed to any Hospital or Asylum for the Insane solely on account of physical infirmity or mental imbecility.

Each patient sent to the Hospital must be furnished with the amount of clothing prescribed, or he may be rejected by the Superintendent.

When a patient is discharged as cured the Superintendent shall furnish him with suitable clothing and a sum of money not exceeding $20.

Incurable and harmless patients shall be discharged whenever it is necessary to make room for recent or more hopeful cases, except in case of persons under the charge of or conviction of crime. * * *

Province of Quebec.—Forty-seven Vic., cap. 20, sec. 35. In all cases where an insane person is confined in an Asylum, under the provisions of the second part of this Act, the cost of maintenance, board and treatment of such insane person in the Asylum, and the cost of his arrest and of the enquiry, if there have been one, and all the costs of transport are due and shall be paid, one-half by the Government and one-half by the corporation of the city, town, village, parish or township within the limits of which is comprised the place or territory in which the insane patient last had his domicile.

Nova Scotia.—The expenses of all pauper lunatics now or hereafter to be confined in the hospital for the insane, shall be chargeable on the respective counties or districts in which they shall have obtained a legal settlement, and the same shall be a county or district charge to be assessed, levied, and collected in the same manner as county rates. *Con. Stat.*

Methods of Treatment.

It is cheering to find that while in some respects in our Asylum administration we are not quite on a par with our neighbours, such as in grandeur of buildings, expense of maintenance, and so forth, there are others in which we on the whole are in no way behind, and indeed can be said to be well in the van, and this is especially so in reference to our system of treatment of lunatics, as respects the disuse of mechanical restraint, the disuse of alcohol and the employment of patients. In some of our Asylums, for instance, notably those of London and Kingston, mechanical restraint is now a thing of the past; straight jackets, muffs, crib beds, padded rooms, and all the myriad devices which ignorance and superstition in times past have invented to torture and madden afflicted humanity, are going or are gone, and it is to be hoped never to return. Alcohol, and narcotic drugs are fast following, and we find active employment and cheerful amusements taking their places. In the Hamilton Asylum there has been no spirituous or fermented liquor used for any purpose for over five years. In the London Asylum there has been no liquor used for three or four years, and there has not been any mechanical restraint or seclusion of any kind whatever used for eighteen months, with an average of nearly 900 patients under treatment. In the Kingston Asylum very much the same record as to restraint is shewn. The

reports which I have received from the Medical Superintendents of these two last-named institutions printed elsewhere in this volume are very interesting on the restraint question, especially that of Dr. Bucke of the London Asylum, who has written very fully on the question, explaining his methods and their results. A perusal of these reports by those interested in the treatment of the insane, will well repay the reader for the time spent.

Since the commencement of my term of office, this question has been one of great interest to me, and Dr. Bucke in his report refers to my having persisted in the doctrine of non-restraint and in the possibility of carrying it out; and he is good enough to say that credit is due to me therefor. However that may be, I, in following such a course, advocated nothing original or even very new, for from personal observation I knew that in a few Asylumns in the States the system of non-restraint had been fully and successfully adopted; and its extensive operation for many years past in England and some other European countries is well known to all specialists. Under such circumstances, it was impossible not to coincide with the opinion expressed by Dr. De Wolfe of Nova Scotia, who has also given much attention to this question, that whatever success in the treatment of insanity has been effected in the Mother Country can be achieved in her colonies, nor could it be felt that Ontario's position was a satisfactory one so long as she lagged behind in this respect. With the permission of Dr. De Wolfe, to whom I am indebted for much valuable information, the following extracts are made from the mass of evidence which he has collected:

Of his own Asylum he says,

"That the humane system alluded to, was at the time of its introduction here something more than a mere experiment, and was adopted and adhered to in almost every County Asylum in England, was abundantly proved by the valuable reports of the Commissioners in Lunacy. In reply to inquiries submitted, the Superintendents of the various Asylums, public and private, communicated statements of their respective opinions and practices, and these were published in the eighth report of that Board (1854)."

The subjoined extracts from that report will carry weight, and are worthy of being reproduced, seeing that even to this day many good and wise men appear to doubt the possibility of successfully carrying out this mild system of treatment.

From J. Millar, M. D., *Supt. Bucks Co. Asylum.*

"With reference to the employment of mechanical restraint and seclusion in the treatment of the insane, I beg to say that it has not been used in any form in this Asylum, nor has the means of using it in any shape been provided."

From G. T. Jones, *Supt.*, and R. Lloyd Williams, *Vis. Phy. Denbigh Lun. Asylum.*

"Ever since the opening of the Asylum in 1848 we have never had cause to deviate from the uniform and consistent practice of avoiding the slightest mechanical restraint in the treatment of the insane, beyond the occasional use of the padded room in cases of extreme violence."

From J. C. Bucknill, M. D., *Lond. Med. Supt., Devon Co. Asy.*

"In the Devon County Aslum restraint is never employed except in surgical cases. The occurrence of such cases, however unfrequent they may be, renders it impossible to deny that the imposition of mechanical restraint may in rare instances be necessary for the safety of the patient. Mechanical restraint in the treatment of the insane is like the actual cantery in the treatment of wounds, a barbarous remedy which has become obsolete from the introduction of more skil-

ful and humane methods, but which may still be called for in exceptional and desperate cases.

"In my opinion the essential point of difference between the old and the new systems consists in this, that under the old system the insane were controlled by appeals to the lowest and the basest of the motives of human action, and under the new system they are controlled by the highest motive which in each individual case it is possible to evoke.

"The first motive, that of fear, belongs to man and the animals, and its exercise is degrading and brutalizing; the latter motives are human and humanizing in their influence, and their development is the true touchstone of progress in the moral treatment of mental disease. It was the brutalizing influence of fear, and the degrading sense of shame, which constituted the true *virus* of mechanical restraints."

From Donald Campbell, M. D., *Med. Supt., Essex Lun, Asy.*

"In the treatment of the patients in this Asylum no mechanical restraint is adopted; all harsh measures of every description are not only found to be unnecessary, but are strictly prohibited among the attendants, and made the occasion of dismissal if discovered; and I feel justified in stating it as my opinion, that personal restraint is in no case necessary for the treatment of insanity in a properly constructed asylum, and that in all cases it is prejudicial."

From Jno. D. Cleaton, *Supt. Lancashire Asy., Rainhill, Manchester.*

"Mechanical restraint has not been found necessary in any instance since the opening of the institution (January, 1851), and it has never been used here."

From Joseph Holland, *Supt. Lancashire Asy., Prestwich.*

"Mechanical restraint has been applied in this Asylum only once since it was opened, upwards of three years since."

From John Buck, *Med. Supt. Leicester and Rutland Co. Lun. Asy.*

"One of the first matters which engaged my attention was the abolition of mechanical restraint in the Asylum. This has been done with fewer inconveniences than might have been anticipated, and I am happy to say that all vestiges of such modes of coercion have for some months disappeared."

From W. C. Begley, *Supt. Female Division, Hanwell, Asy.*

"Mechanical restraints" have not been used in this Asylum for several years."

From D. F. Tyerman, *Supt. Male Division, Hanwell Asy.*

"Mechanical restraint is not resorted to in this Asylum."

From J. S. Allen, *Supt. Monmoathshire Asy.*

"Mechanical restraint or coercion has not been used in any case, and the want of it has not been felt. The general effects of non-restraint on the patients themselves, as well as on the attendants, has been salutary."

From Richard Foote, M. D., *Resident Supt. Norfolk Co. Asy.*

"I have never seen mechanical restraint produce any beneficial effect in the treatment of mental diseases, but have seen many cases greatly relieved by the removal of restraint."

From Richard Oliver, M. D., *Supt. Salop and Montgomery Asy.*

"I have never had occasion to employ mechanical restraint in the treatment of the insane."

From Robert Boyd, M. D., *Supt. Somerset Co. Lun. Asy.*

"In reply to your question of mechanical restraint, I beg to state that nothing has ever been provided or used for that purpose in this institution."

From John Kirkman, M. D., *Supt. Suffolk Co. Asy.*

"The Suffolk County Asylum has been for the last 23 years under the same resident Medical Superintendent, and throughout the whole of that period, the mildest system of treatment has been ceaselessly carried out. All instruments of mechanical restraint were destroyed more than 20 years ago, and they have neither been used nor required ever since. The mildest treatment is unexceptionally the most successful."

From Hugh W. Diamond, M. D., *Supt. Male Division, Surrey Co. Lun. Asy.*

"I fully agree in the opinion of Mr. R. Gardiner Hill, that in a properly constructed building, with a sufficient number of suitable attendants, restraint is never necessary, never justifiable, and always injurious in all cases of lunacy whatever. During the past five years I have admitted more than 800 cases. In not a single instance has any restraint been used."

From W. H. Parsey, *Med. Supt. Warwick Co. Lun. Asy.*

"Mechanical restraint has never yet been used in this Asylum, nor are there on the premises any special means for applying it."

From John Turnham, *Supt. Wilts Co. Asylum.*

"In the Wilts County Asylum, personal restraint is never resarted to, and there is literally no instrument of coercion in the institution."

From Richard Formby, *Physician Liverpool Royal Lun. Hosp.*

"There has been but one instance of mechanical restraint in this institution during the last eight and a half years. It is found that everything which can remove the feeling of degradation, and encourage self respect, is calculated to further the comfort and promote the recovery of the insane."

From F. D. Walsh, *Res. Surgeon, Lincoln Lun. Asy.*

"There has been no mechanical restraint used in this Asylum since the 17th April, 1840—no seclusion since the 14th September, 1841, and no manual restraint that has endured for more than five minutes since the 14th of August, 1848."

From Alonzo H. Stocker, *Med. Supt. Grove Hall Asy., Bow.*

"The use of restraint has been abolished in this establishment since March, 1850, Since its discontinuance the character of the Asylum has been greatly changed; acts of violence have been much less frequent; attempts at suicide have been of very rare occurrence, and in no instance has it been effectually carried out; there has been a less destruction of property of any kind, whilst the patients themselves have been more orderly, cheerful and contented."

The foregoing abridged quotations might be continued so as to fill many pages of this report—suffice it however to add the statements of Dr. Conolly himself, in reference to the private and public Asylums with which he was connected.

Lawn House. "No instrument of mechanical restraint has ever been employed."

Wood End. "Mechanical restraint has never been resorted to. No serious accident and no suicide has occurred."

Hayes Park. "No kind of mechanical restraint has ever been employed."

Moorcroft House. "I have been Visiting Physician about two years. I believe no form of mechanical restraint has been resorted to at any time during that period."

Hanwell Asylum. "I was Physician to the Hanwell Asylum about 14 years. The number of patients was generally 900. After the 21st September, 1839, no form of mechanical restraint was employed with my knowledge or sanction, by night or by day, until my resignation in 1862, except in a few surgical cases for the temporary security of the patient.

Recollecting the state of some private Asylums which I visited officially 30 years ago, I feel perfectly assured that the amended treatment practised since that period, and especially the disuse of mechanical restraints of all kinds, has been productive of an incalculable amount of advantage to the insane. The general tranquillity, comfort, and satisfaction visible in all well-conducted Asylums, public and private, attest this in the strongest manner. Fewer accidents occur; revenge is seldom excited in the minds of the patients; scenes of violence are seldom or never witnessed; the patients manifest no terror; and on recovery, retain no sense of degradation; often after leaving the Asylum, coming to it again as voluntary visitors to associates and friends, of whose good offices they are fully sensible."

(Signed) J. Conolly, M. D.

The reports for 1875 upon the foregoing eighteen County and Borough Asylums, made by the Commissioners in Lunacy, show that among all these, containing no less than eleven thousand and seventy-six (11,076) insane inmates, only seven cases of restraint occurred during the year. One for twelve days to prevent self-injury,—the other six wore locked-gloves for short periods, for surgical reasons.

In the late Sir James Clark's most interesting memoir of Dr. Conolly, mention is made of a presentation of plate, etc., on his retirement from Hanwell. The testimonials were from his professional friends, and were presented by the Earl of Shaftesbury. In the course of his remarks his Lordship expressed himself as follows in regard to the coercion treatment: "Nothing could have been more horrible than the treatment of lunatics some forty years ago. The lunatic was treated without any regard to cure, and regarded as a savage beast who was only to be coerced; and the lunatic asylum was worse than the prison. Now all that is changed. Nearly every vestige of ancient barbarism and ignorance has been effaced; and soon I hope to see not a trace left of the old and accursed system."

In the American Journal of Insanity for October, 1876, in a leading article entitled "Notes on Asylums for the Insane in America," by John Charles Bucknill, M. D, F. R. S., he alludes to "the extraordinary state of medical opinion which permits and defends the use of mechanical restraint in institutions otherwise excellent," and expresses the hope "that they (the Medical Superintendents) will not refuse to show reasons why they adhere to a mode of treatment which in

this country (England) is condemned by the almost unanimous voice of the profession and of the public." Referring to their morbid sensibility to public opinion, Dr. Bucknill says, "I have been able to come to no other conclusion, than that the great stumbling block of the American Superintendents is their most unfortunate and unhappy resistance to the abolition of mechanical restraint." After combating the prejudice against official visitation and inspection, and showing that in England "we do not find the free and independent action of our Superintendents of Asylums is much disturbed by the visitation of the Commissioners in Lunacy, but we do enjoy the advantage thereby, that no one shall greatly lag behind the knowledge and science of his time in the treatment of his patients, without his shortcomings being investigated and published, and the great additional advantage that the general management of our Asylums possesses the full confidence of the public.

"With regard to the constantly repeated proposition of American Superintendents, that they maintain and defend the use, but not the abuse, of mechanical restraints, I have only to remark that the use of such restraint must always be an abuse whenever and wherever it may be avoided or substituted by a more skilful mode of treatment, inflicting less suffering upon the patients; and that at the present day the extent to which this can be effected, is not a matter which the Americans must be left to discover for the first time from their own experience, since a very moderate amount of honest investigation in this country and on the continent must convince any candid mind that the proportion of lunatics on whom restraint can not be so avoided is extremely small."

Dr. Bucknill alleges that any American Superintendent may go to England, and, having free access to all public Asylums there, in a search of one month he would not be able to find a single patient therein under any form of mechanical restraint.

Nor is it in England alone that this humane system is adhered to; Drs. Morel of Rouen; Greissinger of Berlin; Meyer of Gottingen; Tebaldi of Italy; Salomon of Malmo, Sweden; Baron Mundy, Vienna; and Fusier of Savoy, were among the earliest European celebrities to throw off old prejudices and heartily to adopt the mild form of treatment.

To summarize what has been advanced, I would state that those only object to this system who have never practically tested it; that its practicability has been amply and satisfactorily proved; that its results bear the closest scrutiny; and that none who have once adopted it have ever been known to revert to the opposite plan. If the use of restraint be allowed its abuse becomes unavoidable: no one can tell where one ends and the other begins, "restraint is synonymous with neglect.

REPORTS OF THE MEDICAL SUPERINTENDENTS FOR THE YEAR ENDING 30TH SEPTEMBER, 1884.

ASYLUM FOR THE INSANE, LONDON.

OCTOBER 1st, 1884.

To the Inspector of Prisons and Public Charities, Toronto, Ontario.

SIR,—I have the honour to transmit to you herewith the Thirteenth Annual Report of this Asylum.

There were in residence at this Asylum on the 1st day of October, 1883, 895 patients, of whom 440 were men and 455 women. In the course of the year that has since elapsed there have been admitted to the Asylum 132 patients, of whom 80 were men and 52 women, making the total number of patients under treatment during the year 1,027—520 men and 507 women. Of these patients 67 have been discharged, 34 men and 33 women; 50 have died, 33 men and 17 women; 2 have eloped, both men; and 1, a man, was transferred to another Asylum; leaving in residence at present 907 patients, 450 men and 457 women.

Of the 67 patients discharged, 39—20 men and 19 women, were discharged recovered; 20—11 men and 9 women, were discharged improved; 7—3 men and 4 women, were discharged at the desire of their friends unimproved; and 1 woman was discharged as not insane.

The number of patients discharged recovered and improved was 59, or 44.69 per cent. of the admissions.

The total number of patients under treatment during the year was 1,027, and the number of deaths 50, so that the death rate for the year was 4.87.

The deaths were all natural and unpreventable, except one. A man named W. T. committed suicide while on probation on 20th April last. His friends, who took him out, were strictly warned to watch him closely, but they left him alone for some hours on that day and he hung himself in his barn.

Repairs and Improvements made.

I have this year again to chronicle a large amount of work done under this head, and probably the small jobs not mentioned would in the aggregate comprehend many times as much work as those larger ones here specified.

1. We built a lumber shed 30 by 40 feet, a story and a half high, and painted it, so that in future the material on hand in the carpenter's department might be protected from the weather, and so that the premises in that neighbourhood could be kept in order.

2. We built 266 feet of close high board fence at the back of the barn yard to complete the fence begun last year to enclose the barn yard and farm buildings.

3. We excavated and fitted up two basement rooms under the west cottage for a wash-room and smoking-room for the patients at that cottage.

4. We took down the plaster ceilings of the kitchen and old laundry and put up matched board ceilings.

5. We refloored with oak and refitted the matron's storerooms in the Main Asylum.

6. At the Bursar's house we built a bath-room 12 by 12 feet, fitted it up complete, built a verandah 35 feet long, and a lattice fence 53 feet long.

7. We made a place to keep the coal oil under the steps at the front door of the store, and took the old oil house for a mortuary. We put in a new floor and door, and fitted it up complete in all respects.

8. We laid a new water main from the north building to the North Cottage.

9. We laid 2,830 feet of gas mains from the Main Asylum to the north building, and to the North Cottage.

10. We ventilated the four sinks of the Main Asylum associate dining-rooms.

11. We fitted up (almost reconstructed *de novo*) the Shaker washing machine, the wood work of which was rotten and the iron work worn out.

12. We took up the down-pipes from the sinks and the drains leading from them at the north building and relaid them; they were filled with grease; these drains should empty to the west instead of to the east, there is more fall that way.

13. We ventilated the water-closet, and entirely refitted the bath-room and water-closet at the Medical Superintendent's house.

14. We ventilated the dining-room sinks at the north building.

15. We ventilated the water-closets of the centre building of the Main Asylum.

16. We have examined and overhauled our fire-pumps, fire-engines, hose, etc., and ascertained that it is all in order and ready for use at a moment's notice.

17. We have placed a double and a single porch at the front doors of the two houses in front of the Asylum, which houses belong to the Institution and are occupied by Asylum employees.

18. We took down 200 feet of picket fence at the north end of the old garden and put up 600 feet (same and similar fence) between the garden extension and the grounds of the north building.

19. We have done a great deal of repairs and refitting at both gate-houses.

20. We have straightened up and put in order 2,200 feet of the Main Asylum fence.

21. We put up 221 feet of fence on the west farm in connection with the new piggery there.

22. The door-frames at the north building were all more or less loose in the wall, and as the doors were from time to time somewhat violently shut to by the patients, the frames moved and broke the plaster about them. We this year took out and reset all these door frames.

23. We put in a deep drain to keep the dairy and the basement of the store dry.

Repairs and Alterations Recommended.

1. One of the most pressing questions at present connected with this Asylum is, what to do with our sewage? At present it runs down two creeks, one flowing south to the south branch of the River Thames, and the other west through London East and London into the north branch of the same river. The sewage pollutes the waters of these creeks, and in view of the cholera in Western Europe this summer, these polluted streams caused some anxiety on the part of our neighbours who live in the vicinity. It seems clear that eventually steps will have to be taken to relieve the neighbourhood of this source of danger, and the question to decide will be whether to build a sewer from the Asylum to the river or get rid of the sewage by running it over the land. I am not in a position at present to say which of these plans would be the best. It should be stated here in connection with the above, that the Asylum sewer leading to the creek running to the west, and which was made of plank and put in fourteen years ago, when the Asylum was built, has been for some years rotting and falling in, and it cannot be very long now before it will be blocked up and useless.

2. The Asylum scales need to be moved, both because they are unsightly where they now stand, just alongside of the new chapel, and more especially because they should be placed where they can be roofed over, for at present the snow and frost interfere more or less every winter with their use. Probably the best place for them would be immediately against the store on the north side of that building, where they could be closed in by a single wall and a roof.

3. The East and West Cottages should be heated with hot water as the North Cottage now is. It is cheaper to heat with hot water than base burners, and the buildings could be much better heated by the former than by the latter method.

4. The steam-heating of the Main Asylum should be thoroughly reorganized and rearranged. The building could be better heated and a good deal of coal saved by a different arrangement of steam pipes,

5. A coal shed similar in all respects to those at the North and East Cottage is urgently needed at the West Cottage.

6. We want a second waggonette, as the staff has become so large that there is not room in the waggonette we have for all the female employees off duty to ride in it to church on Sunday morning.

7. A suitable entrance porch should be built at the front of the Main Asylum.

8. We want a large building to be used as a workshop by the male patients for all sorts of indoor work, such as shoemaking, making and mending chairs, matmaking, willow work, etc., etc.

9. The roofs of all five Asylum buildings leak more or less, and the eavetroughs and down pipes from them are very much in need of repairs and renewals.

10. The gardener's house requires to be raised and a new foundation placed under it; the old sills and joists are rotten; four cases of typhoid fever have occurred in this house within the past five years, and the repairs that I mention are urgently needed.

11. The present butcher's shop, or part of it, should be converted into a proper chamber for containing meat in hot weather, arranged with non-conducting walls and an ice chamber above easily accessible. This change I propose to make with our own labour if I am allowed the necessary material.

12. The outer ends of the corridors of the Main Asylum should be taken out and replaced with glass, so as to light up these halls which are and have always been very dark and gloomy, especially in the winter time.

Enlargement of Asylum.

Should it be considered advisable at any future time to still further enlarge this Asylum, I would suggest that the proper way to do so would be to add a building capable of containing one hundred and fifty to two hundred beds to be used entirely for acute cases, and for cases of whose recovery there is reasonable hope. Should this be done, the patients requiring especial attention would be kept together, and would each one be more closely under the observation of the Medical Superintendent than is possible at present. Another great advantage that would flow from such an additional structure as is here contemplated, would be that with that building for acute cases, and our present North Building for the less easily managed chronic cases, our present Main Asylum could be converted into a great cottage and conducted from that time on the open door system, for at present its doors are only kept locked for the benefit of a small proportion of its inmates; these being removed such necessity would no longer exist.

Treatment and its Object.

The object of treatment in the case of insanity is (to my mind) not so much the cure of disease as it is the re-humanization of the patient. If cure is possible it will be achieved through the means taken to secure this end, if it be not possible, as too often it is not, then the life of the patient will by this process be made more tolerable, and this is the next best thing where cure cannot be looked for. I do not believe that drugs are capable of taking any important part in the attainment of this end, the agents upon which, I think, we shall have ultimately to depend are kindness, management, hygienic measures, such as fresh air, good food, exercise, rest, sleep, etc., regular work, amusements, properly ordered mental exercise, and other similar means calculated to restore by invigorating and regulating the healthy action of the impaired nerve centres. Speaking generally, what is wanted is to bring the patient back to a realization of his surroundings, to bring his mind into relation with realities, and so to shut out the fantastic thoughts and feelings whose existence constitutes insanity. Of all means to accomplish this end work is the most valuable, because it more than anything else compels the mind to take cognizance of real existences—actual facts. But as supplementary to work, it is my opinion that in a perfect Asylum a regular system of instruction would hold the next most important place. It appears that where this agent has been given a fair trial in the treatment of insanity, as in the Richmond District Lunatic Asylum in Dublin, all the good effects which might have been expected to flow from it have been realized. It is said to make the patients there more orderly, more happy, and to assist in their recovery. What I should like would be that I should be given the means to add this undoubtedly valuable agent to the means of cure and relief already in use at this Asylum. My experience during the last few years has led me to believe that we are yet only beginning to realize what may be done for and with lunatics. I am certain the greatest achievements

so far in the direction of liberty and employment are only short steps in comparison to the great strides that are yet to be made; in a word, I believe in the possibility of re-humanizing—of re-civilizing—the lunatic *as a lunatic*, where recovery is out of the question, and of so rendering his life on the whole comfortable, if not happy, and financially nearly or quite self-supporting.

Alcohol.

It is now three years since we have used any alcoholic stimulants, either in sickness or health, at this Asylum. The subjoined table is drawn up from the records of the institution, and embraces every whole year since the Asylum was opened late in the fall of 1870. It will show better than any argument that alcohol was of no value to us, that it neither prevented death nor assisted recovery.

The Year.	Percentage of deaths per annum calculated upon total number under treatment	Percentage of recoveries to admissions.	Alcoholic Stimulants used at the rate of—
1872	4.72	38.17	
1873	6.94	38.21	
1874	4.16	41.67	$3 to $4 worth per patient per annum.
1875	7.18	36.15	
1876	4.53	31.24	
1877	3.79	55.03	$1 per patient per annum.
1878	5.10	35.40	
1879	4.91	47.60	
1880	4.76	36.20	3 to 4 cents worth per patient per annum.
1881	3.92	32.22	
1882	4.95	39.90	
1883	5.23	43.45	Absolutely none used.
1884	4.87	44.69	

The death rate and the recovery rate at an institution are liable to wide fluctuations from a great variety of causes, but the above table conclusively shows that the disuse of alcohol has not affected prejudicially either the one or the other of them.

Upon the whole, as many of our patients recover, and as few die, now that we use no alcohol as when we used that agent freely, and this is all that I ever claimed. I never supposed that three or four dollars worth per patient per annum of wine, beer, and whiskey, judiciously administered would either prevent recovery or materially shorten life. I simply said that alcohol did no good, was a useless expense, and that its use at the Asylum did harm by tending to keep alive in the country the delusion that alcohol is a valuable agent in the treatment of disease, and that therefore a little of it taken in health would probably, if wisely regulated, do good to the person taking it. These propositions I believed to be false, and I thought and still think that the right thing for me to do was to combat them in every legitimate manner.

Disuse of Restraint.

During the year just closed and for three months before that, that is during the last fifteen months, we have not used at this Asylum any mechanical restraint or seclusion of

any kind whatever ; neither have we during that time used any morphia, chloral, or other sedative drug for the purpose of quieting or calming any noisy or violent patient. Two years ago we began in earnest this non-restraint movement, and I must confess I have been as much surprised as any one else can be at the success we have had in carrying it out. It is not simply that we have disused mechanical restraint and seclusion, but we have revolutionized at the same time the whole morale of the institution, the disuse of restraint and seclusion being only a small part of the revolution. The central element in the change to which I refer is undoubtedly the employment of the patients. It is this far more than anything else that has enabled us to do without restraint. We now employ each day nearly every patient who is physically able to work, and we make it an especial point to employ noisy and violent patients, and so far we have never failed to get such patients to occupy themselves at some form of industry. The great change which has been effected in the status of our patients within the last two years consists then mainly of the following particulars:—1st. All patients who are able work. 2nd. Total disuse of mechanical restraints and seclusion. 3rd. Total disuse of canvass and other strong dresses. 5th. Far greater tidiness of person and clothing, taking the whole institution into account. 5th. Much less fighting and striking amongst the patients. 6th. Very much less scolding, swearing and obscene language ; indeed it has become very rare now to hear an improper word used in our wards. 7th. As shown in the above and many other ways, the patients have become in all respects more manageable and, so to speak, more civilized : as one more mark of which change, I may mention that the number of patients who are capable of good behaviour at chapel has nearly doubled in the last two years, so that instead of a regular Sunday attendance of about two hundred and fifty patients as in 1882 and before that time, we have had now for the last year or more a regular attendance of considerably over four hundred. 8th. Whereas, we used to have to feed frequently with the tube, it has become now extremely rare to have to resort to this expedient. In fact, within the last twelve months, the only times we have had to do so were in the cases of two patients named respectively H. G. and E. McM., and these we only fed once each, viz. : H. G. on the 16th of May, and E. McM. on the 28th of February. Finally, 9th. It is supposed by most people that the disuse of mechanical restraint implies the holding of patients by the hands or by the weight of attendants, but this is a mistake. I wish here to state positively that in this Asylum attendants do not put their hands upon patients, for the purpose of restraining them, any more now than they did six or seven years ago, when we used mechanical restraint freely ; I doubt very much whether they put their hands on patients as much now as they did then. That is to say, at the present time in this Asylum while using no mechanical restraint, no attendant ever leans his or her weight or any part of it upon a patient for the purpose of restraint, and no attendant ever holds a patient continuously even for a few minutes.

There is something very curious about this non-restraint movement. To those who practice it it seems very simple, but those who do not practice it do not, and apparently will not, believe in it. In my report for 1877 I wrote about it myself as follows :—

" As for non-restraint, I do not believe it can be or ever was practiced ; it would be a worse cruelty " to many patients than the old chains and straight-waistcoats of Bedlam."

I was then young in the experience of the care of the insane, and, as is often the case with beginners, dogmatic in the inverse ratio of my experience. But in other cases this explanation will not apply. Men of great experience and of great ability speak as positively now as I did then. For instance, in an editorial article in the *Journal of Insanity*, for April, 1884, on page 493, the following extract from Dr. A. E. Macdonald's report for 1880 is quoted approvingly :—

" We have neither entirely discarded, burnt, nor hidden our restraining apparatus. Yet, perhaps, " we thrust fewer patients into rooms, and use dozy restraints less frequently than some more celebrated " alienists. We use no wet pack *to avoid restraint*. We do not macerate our patients in hot water by " the hour, so that they may not need the camisale. We do not place heavy attendants on their knees " when seated, nor on their breast bone when in bed, to avoid the use of waist or bed straps. In fine, " we are not sufficiently new in intercourse with the insane to believe in the possibility of *real* non- " restraint, nor sufficiently old in moral legerdermein to prteend to do what we know is beyond *our* " power."

This quotation needs no explanatory comment. The writer of the paragraph makes it clear that he neither believes in non-restraint himself nor in those who profess so to believe. The writer in the *Journal of Insanity*, who quotes the passage, fully endorses it. That there may be no mistake in this regard he refers to Dr. Gray's Report of the Utica Asylum for 1880, saying that :

"It is confidently believed no experience will be found to change in any essential degree" the conclusions laid down.

And turning to this report we find a long argument in support of restraint summed up in the following words :

"We look upon restraint and seclusion, directed and controlled by a conscientious and intelligent medical man, as among the valuable alleviating and remedial agents in the case and cure of the insane.'

These quotations are made for the purpose of showing not what two or three men think in this matter of restraint or non-restraint, but what is taught and maintained by the oldest psycological journal in America. Not only it seems is non-restraint not believed in by the editor of that journal, but he plainly takes it for granted that those who profess to believe in it and carry it out, simply substitute something still more objectionable for certain forms of restraint which they discontinue. It is this assumption which I wish on my own part clearly and emphatically to deny. In this Asylum we have, with a total average population of nearly nine hundred patients, for fifteen months absolutely discontinued mechanical restraint and seclusion, and we have not replaced them by any other forms of restraint whatsoever.

I doubt whether the term "non-restraint" has the same absolute meaning at other institutions in the United States, Great Britain, Australia, etc., that it has here. Perhaps in some asylums it has, but certainly in others it has not. For instance, about a year ago, I was told by an ex-superintendent from that country that restraint was never used in Australia ; but Dr. Manning (the Inspector-General of New South Wales) in his last report for 1883-4, estimates the restraint used in that colony at one-fourth per cent. of the patients under treatment, and says that he is still unconvinced "of the wisdom of the total disuse of restraint ;" that, on the contrary, he believes that "prohibition of it would be a fatal mistake." So it appears that while they do not use "restraint" in many English asylums, they pack certain patients who are difficult to manage in wet sheets for hours together, so that they cannot move ; and others they keep in closed baths, with only the head above the cover for half a day or a day at a time. Here we resort to no such expedients, we neither use the ordinary forms of restraint, nor do we use substitutes for them.

When we began here several years ago this non-restraint movement, we had in use more mechanical restraint than any other of the Ontario asylums, and we used to justify this position of affairs by saying that our patients came from the more lately settled districts of the province, and were therefore less refined than the people further east, and that when they became insane this coarser fibre of their nature would still show itself, making them less easily managed than their more civilized countrymen and women of the eastern districts. This being the state of affairs, the amount of restraint in use six years ago was an average of perhaps fifteen or eighteen patients out of a total population of a little over six hundred. By the year 1880 the average number of persons in restraint had fallen to perhaps a little over half that number. In 1881 it had still further fallen to an average number of some four or five patients. In the course of 1882 it fell still lower, and by the middle of 1883 we had ceased to use any. The gradual manner in which this change has been effected, the steady progress that we made in the reform without ever, in the course of six years, going back even for a moment on our steps, as well as the, to me, apparently solid basis upon which it rests, encourages me to believe that the change itself is permanent, and that no more restraint will be needed or used in this Asylum. The credit for this most beneficient reform in the management of this institution ought to be given in the first place to yourself for having persisted from the beginning of your term of office in the doctrine of non-restraint, and for having constantly urged the possibility of carrying it out. In the second place it should be given to Miss McBride, the chief female attendant, and Dr. Beemer, the Physician, at the north building, in which reside our least quiet patients, and to which building restraint was confined for the last two or three years of its existence

with us. The interest and pains taken in the movement by these two officers, and the sympathetic devotion to the work of the first named of them, have been beyond all praise.

I will close this part of my report by stating in a few words how this non-restraint movement has been carried out, and the means upon which we depend to get on without restraint in the future. One patient at a time is taken out of restraint and given to an attendant to look after and manage. The attendant stays with the patient constantly, talks to him, makes friends with him, and persuades him, as soon as may be, to engage in some kind of occupation. Perhaps the attendant fails to gain the confidence of the patient and to acquire the necessary influence over him ; in that case, after a fair trial has been made, the patient is passed to another attendant, who perhaps will have better success. If not, to another until the right attendant is found. Of course during the trial the patient is out of restraint, as no patient needs to be restrained who has an attendant to him or her self. So far as our experience extends we have found that so soon as the right attendant is found, and the patient is persuaded to engage in some occupation, there is no more difficulty with that case ; and in our experience at this Asylum we have never put any patient back into restraint after having once taken him or her out of restraint for the purpose of reformation—that is, we have invariably succeeded in reforming every patient that we have undertaken, and succeeded, too, the first time we tried. The patient will perhaps require some special looking after for a few days, or even some weeks, but there will be no more even apparent necessity after that of putting him back into restraint. Then another patient is taken out of restraint and treated the same way, and so on until none are left. The same way when a patient is received who has the reputation of being violent, he is given at once in charge of a certain attendant and, if necessary, passed from one to another until an attendant is found who can gain his confidence and make friends with him ; this attendant persuades him to engage in some kind of work, and this once accomplished we have no more trouble in getting on with him. So far indeed since the movement began we have never had any great difficulty, and never any long-continued difficulty, with new patients. With some of the old cases who had been in restraint the greater part of the time, for years we have had considerable trouble, but, as I say, very little comparatively with new cases. The explanation of this seems to be that more than anything else it is restraint that renders restraint necessary. Perhaps the most difficult of all the new cases (so far) to manage was J. L., a negro over six feet in height, and powerfully built. He was admitted July 28th, 1883, suffering from acute mania. He supposed himself to be constantly surrounded by enemies. He would stand against the wall or in a corner quietly at bay until he thought he saw a chance, and then without any warning would attack the patient or attendant who was nearest him. In the course of a few days six attendants in turn had charge of this man. None of them were actually hurt by him, but they in turn became frightened, and all failed to gain any moral ascendency over the patient. At last the right attendant was found, a Hanoverian named Gatzenmeier. He simply declined to be scared by the patient, he talked to him, showed kindness to him, sympathized with him, treated him with frankness, and as he felt no timidity, showed none. In a very short time he gained the patient's confidence, and within forty-eight hours had him employed at some simple work, and that patient struck no one and gave no trouble afterwards.

Employment of Patients.

With an average number of about 885 patients in actual residence, we have now at work every day from 770 to 790, about half of whom are men and half women. As every patient who works does not work every day a larger number of our patients are employed than the largest of these numbers ; in fact at the present time I have only some sixty-five or seventy patients in residence who never do any work, and of these as many as fifty are physically incapable of labour, either from illness or old age. So that I have only some fifteen or twenty who, being able, do not engage in some form of work. To show the progress we have made in occupying our patients I give below a table extending as far back as the records reach of the collective days' stay of all patients in residence during the year, the number of days work done in the same year, and the average percentage of patients who worked every day except Sunday during the year.

Year.	Collective days stay of all patients in residence in the year.	Number of days' work done in the year.	Percentage of patients who worked on the average day by day.
1878	237,817	88,430	43.32
1879	263,663	97,637	43.21
1880	280,125	109,410	45.56
1881	297,871	107,526	42.13
1882	325,185	113,936	40.80
1883	327,536	160,558	57.12
1884	329,380	238,033	84.31

But a year ago we had not as large a percentage of patients employed as at present. I find that in the last three months (that is, July, August and September), taking the week days of that quarter, an average of 92·06 per cent. of all the patients in actual residence were engaged from day to day in some form of work; or, to give the exact figures—in the three months, excluding Sundays, the total number of days' residence of all the patients was 70,152, and the number of days' work done was 64,982.

Points Established.

In the seven years that I have had charge of this institution I may fairly claim that I have demonstrated the three following propositions, viz.:

1st. That alcohol in any form is not only not indispensable, but is not even useful in the treatment of insanity.

2nd. That neither chemical restraint nor seclusion, nor any form of mechanical restraint is necessary in the management of lunatics.

3rd. That all insane persons who are physically able to work can be persuaded to labor if the right employment is found for them, and the right means taken to induce them to engage in it.

Doubtless this is not the first time or place in the history of the world that these discoveries have been made, and that these positions have been experimentally settled, but that fact scarcely lessens the value of the proof of them here and now.

Maintenance Rate.

It might be supposed that the employment of so large a proportion of our patients would materially lower the maintenance rate of the institution, instead of which our rate which has always been high, as compared with the other Asylums, has during the last couple of years been higher than ever before, and is at present the highest of all the Asylums of the Province. I wish to explain, in a few words, this apparent anomaly. In the first place, I may state that a large part of this excessive expenditure has nothing to do with the working or not working of the patients, but is due to the operation of causes over which we at the Asylum have no control. As, for instance, the excessive expenditure for heating the buildings which might be saved, as I have many times pointed out, by a better arrangement of the steam pipes in the Main Asylum, and by heating the east and west cottages (as the north cottage is now heated) with hot water instead of with stoves and grates as at present. So, too, our expenditure here is excessive in the direction of repairs and improvements, the former necessitated by the bad original construction of the Main Asylum, and the second consequent upon the great growth of the institution of late years, necessitating many small structures not supplied by the Public Works Department, nor even provided for on capital account, and which we have had to furnish out of maintenance. A glance at the last few annual reports of this Asylum will give some idea of the immense amount of new work and repairs that we are constantly doing and making here. But now as to the actual effect of work upon expenditure—it has been so far, as will be easily explained, exactly the reverse of what might have been expected. For instance, two years ago our stock of made-up clothing of all kinds, including socks and stockings,

was very low indeed; in fact we had almost none, and almost no material to be made up into clothing, socks, etc. Since that time we have converted some two hundred idle female patients into working patients. These have been almost entirely employed sewing and knitting, and the result has been that we have not only made the socks and clothing required from month to month, but we have in stock now thousands of pairs of socks and stockings and thousands of articles of clothing of all sorts, more than we had at that time. The cost of the material for this clothing has been, of course, added to our maintenance rate for the last two years. The same thing is true, on a smaller scale, in the matter of slippers, which we are now making for ourselves. Then another thing—it must be remembered that a large part of our patients' work is non-productive—either the labour is not associated with sufficient intelligence to make it productive, or there is no available productive occupation upon which to employ it. Some of this work is more or less useful to the institution itself; some of it is of no use at all except to the patient who does it. Of work that is of use to the institution, but of no money value, I may instance hair-picking by which we keep our mattrasses in good order, but by which we save no money, in fact, use up a certain quantity of hair; making rag mats; spudding weeds on the ornamental grounds; grading and keeping in order the roads and grounds; and many other similar occupations. But much of the work done is of no use at all—for instance, we have some women who are inveterate tearers, and to keep them from tearing their clothes or bedding we give them worthless rags to tear into narrow strips, or to ravel out into threads—then we have them tie these rags or threads together and wind them into balls—and of these balls of thread sometimes they knit socks and stockings, which last are of course of no value, but in the meantime the work has done the patient a great deal of good and has been the means of keeping her out of restraint. So again, many of the hopelessly demented female patients occupy themselves with knitting that has to be unravelled as fast as done; the yarn is used again and again, still there is nothing made and even always a little loss Thus the labour of our patients is largely unproductive, and some of it even costs a trifle, and that which is productive of it has so far increased our expenditure instead of lessening it. Another thing to be said is that patients who work will have better appetites than those that do nothing, so here again our maintenance rate is increased by the work of our patients instead of being diminished. I think now I have sufficiently explained (though I might have gone much more into detail) how it is that within the last two years, during which time we have gradually put our patients to work, our maintenance rate has advanced—but from the present time the tendency will be the other way. In the first place we shall cease to accumulate clothing,—then hired help in the sewing-room has already been decreased by two sewing girls, and it is possible that after a little I shall be able to dispense with the third. Money is being saved now by making our own slippers and mending our shoes and boots; more work is constantly being put on the farm and garden, and the crops are constantly increasing in value. Both male and female patients who begin by doing valueless work, become often after a time capable of doing productive work, and the tendency in the future, as far as the rate is influenced by the labour of the patients, will be steadily towards diminished maintenance expenditure. Of course this last is not the object for which the patients are employed; that is set forth elsewhere. Still, it is important to show that the work which we do for the benefit of the patients will eventually be a gain, and not as now an additional expense to the Government.

Amusements of the Year.

The ordinary amusements for the patients have been as follows:—Cards, chess, draughts, bagatelle, billiards, ten-pins, backgammon, reading, music, walking in the grounds, cricket, croquet. The more special amusements have been—

1. A weekly singing class for patients at which the hymns for the ensuing Sunday are practised. This is kept up throughout the year and is much appreciated.
2. The weekly dances from the middle of October to the end of March.
3. The weekly entertainments, extending from 1st November to the end of March.
4. Sleigh-riding when the roads are good and the weather favourable.

5. Attending circus; each year about fifty male patients go to the city to attend the best circus of the season.

6. And this year we have had in addition to all these a series of Band Concerts in the evening on the lawn in front of the Main Asylum. These concerts are furnished by our own band, are really excellent and have been much enjoyed. We had one of them each week of July and August, and the first half of September.

The weekly entertainments for the year were furnished by citizens of London, to all of whom we are very thankful for this welcome addition to the pleasures of the year. They were as follows:—

(*a*) A variety entertainment by the "Crusty Minstrels."

(*b*) Magic Lantern exhibition by Drs. Burgess and Millman, assisted by Mr. A. Bremner.

(*c*) A concert by St. James' Church Choir, assisted by Miss Elwell.

(*d*) "The Plague of My Life," by the London South Entertainment Club.

(*e*) A concert by the Medical Students of the Western University.

(*f*) A concert under the management of Dr. Sippi.

(*g*) A concert by Mr. Jury and friends.

(*h*) A concert and farce under the management of Mr. C. F. Colwell.

(*j*) A concert under the management of Mr. W. J. Freeland.

(*k*) A concert under the management of Dr. Verinder.

(*l*) An entertainment by Messrs. Evans, Foster, and Bremner.

Female Attendants in Male Halls.

The same three women referred to in my report of last year are still occupied as attendants in the male halls of the Main Asylum. I am in a position to-day to repeat all I said this time last year in favour of this new departure. I have found the service of these women exceedingly valuable, and should it become possible I shall ask to be allowed to still further extend the employment of women in the male patients' wards.

Sunday Services and New Chapel.

The Protestant clergymen of the city have continued to come out in turn to conduct Divine Service for us each Sunday morning. This weekly religious exercise is a pleasure and undoubtedly a benefit to our patients, and I feel that I cannot sufficiently thank the disinterested men who, without any remuneration, perform for us from year to year this important service.

Within the last year the Government (in response to my repeated solicitation and recommendation) has built a very beautiful little chapel in which to hold these Sunday religious meetings, and I expect that within a few weeks from now it will be seated and ready for use. As soon as this building is complete we shall have Catholic as well as Protestant services. The new chapel is an ornament to our grounds and will be of great use and comfort to us.

Farm and Garden.

Taking it all round this has been the most successful year in the history of this institution in these departments. Our flowers and grounds have never before been so beautiful, nor our crop of hay, grain, fruit, and vegetables as a whole so large. Of flowering plants grown in the greenhouses we set out in beds last spring 26,554, and of annuals raised under glass frames 27,037. Of flowering plants grown entirely in the greenhouses we raised 3,106, and of annuals grown in the open air 8,000. The following is a list of the vegetables, fruit, and herbs raised this season in the garden:—

Asparagus	1,455	Bunches.
Beans	146	Bushels.
Beets	945	Bunches.
"	532	Bushels.
Cabbage	11,290	Heads.
Carrots	8,646	Bunches.
"	630	Bushels.
Cauliflower	2,021	Heads.
Celery	9,200	Sticks.
Corn (green)	934	dozens.
Cucumbers	527	"
" Pickling	71	pecks.
Lettuce	431	dozens.
Melons (green for preserves)	6	bushels.
Onions (green)	11,633	bunches.
" (ripe)	353	bushels.
Parsnips	663	"
Peas (green, in pod)	335	"
Peppers	60	dozens.
Potatoes	425	bushels.
Pumpkins, Squash and Marrows	2,500	
Rhubarb	2,199	bunches.
Radishes	2,540	"
Salsify	1,120	"
Seakale	473	crowns.
Spinach	83	bushels.
Tomatoes	337	"
Turnips	556	bunches.
Horse Radish	350	"
Brocoli	675	heads.
Brussels Sprouts	47	pecks.
Kale	360	heads.
Apples	325	bushels.
" Crab	26	"
Currants, Red	1,145	quarts.
" White	85	"
" Black	250	"
Gooseberries	1,384	"
Grapes	180	lbs.
Pears	110	pecks.
Filberts	150	quarts.
Strawberries	1,532	"
Raspberries	1,959	"
Citrons	125	
Water Melons	176	
Musk "	320	
Summer Savory	250	bunches.
Sage	350	"
Thyme	200	"
Parsley	200	"
Mint	150	"

Our farm crop for the year included among other things of less value the following:—262 bushels of fall wheat, 1,886 do. of oats, 174 tons of hay, and 80 do. of straw, 5,630 bushels of potatoes, 5,460 do. of roots, 28,122 lbs. of pork, and 25,366 gallons of milk.

Officers and Employés.

It affords me great pleasure to be able once more to report that all the employes of this institution have fulfilled their several duties throughout the year honestly and well. If there have been any slips at all they have been few and trifling, and do not deserve to be taken into account when compared with the general efficiency and almst universal good behaviour. Of the officers I cannot speak too highly ; I do not believe there is an institution on the continent with a better staff.

I have the honour to be, Sir,

Your obedient servant,

R. M. BUCKE,

ANNUAL STATISTICAL REPORT

Of the operations of the Asylum for Insane, London, for the year ending 30th September, 1884.

TABLE NO. 1.

Shewing movements of patients in the Asylum for the official year ending 30th September, 1884.

	Male.	Female.	Total.	Male.	Female.	Total.
Remaining October 1st, 1883	.....	.....	.....	440	455	895
Admitted during year:—						
By Lieutenant-Governor's warrant	25	18	43			
" Medical Certificate	55	34	89			
				80	52	132
Total number under treatment during year	.....	.....	.....	520	507	1027
Discharges during year:—						
Not insane	.....	1	1			
As recovered	20	19	39			
" improved	11	9	20			
" unimproved	3	4	7			
Total number of discharges during year	34	33	67			
Died	33	17	50			
Eloped	2	.....	2			
Transferred	1	.....	1			
				70	50	120
Remaining in Asylum, 30th September, 1884	.....	.....	.....	450	457	907
Total number admitted since opening of Asylum	.....	.....	.....	1267	1175	2442
" discharged	438	433	871			
" died	312	231	543			
" eloped	34	7	41			
" transferred	33	47	80			
				817	718	1535
" remaining, 30th September, 1884	.....	.....	.....	450	457	907
Number of applications on file 30th Sep., 1884	2	18	20			

TABLE No. 2.

Shewing the maximum and minimum number of patients resident in the Asylum, the total number of days' stay of patients, and the daily average number of patients in the Asylum, from the 1st October, 1883, to 30th September, 1884.

	Male.	Female.	Total.
Maximum number of patients in residence (on the 6th of August, 1884)	452	457	909
Minimum " " " (on the 28th of February, 1884)	439	451	890
Collective days' stay of all patients in residence during year	162889	166491	329380
Daily average population	445.05	454.89	899.94

	Admissions of Year.			Total admissions since Opening.		
	Male.	Female.	Total.	Male.	Female.	Total.
Social State.						
Married	29	26	55	509	678	1187
Widowed	5	3	8	32	58	90
Single	46	23	69	720	438	1158
Not reported	.....	.....	.....	6	1	7
Total	80	52	132	1267	1175	2442
Religion.						
Presbyterians	23	17	40	261	250	511
Episcopalians	17	7	24	281	221	502
Methodists	16	9	25	244	260	504
Baptists	6	6	12	88	95	183
Congregationalists	1	.....	1	14	7	21
Roman Catholics	7	10	17	211	230	441
Mennonites	.....	.....	.....	3	.....	3
Quakers	.....	.....	.....	8	1	9
Infidels	1	.....	1	24	8	32
Other denominations	3	1	4	56	52	108
Not reported	6	2	8	77	51	128
Total	80	52	132	1267	1175	2442
Nationalities.						
English	14	3	17	193	139	332
Irish	8	6	14	219	272	491
Scotch	12	5	17	136	125	261
Canadian	42	36	78	574	531	1105
United States	1	1	2	62	35	97
Other countries	2	.....	2	32	38	70
Unknown	1	1	2	51	35	86
Total	80	52	132	1267	1175	2442

TABLE 3.

Shewing the Counties from which patients have been admitted up to 30th September, 1884.

COUNTIES.	Admitted During Year.			Total Admissions.		
	Male.	Female.	Total.	Male.	Female.	Total.
Algoma District	2	.....	2	3	2	5
Brant	.....	.....	.....	38	33	71
Bruce	8	8	16	69	54	123
Carleton	.....	.....	.....	4	7	11
Dufferin	.....	.....	.....	.....	.....	.....
Elgin	4	7	11	71	84	155
Essex	3	3	6	56	52	108
Frontenac	.....	.....	.....	5	7	12
Grey	.....	.....	.....	9	12	21
Haldimand	.....	.....	.....	22	23	45
Halton	.....	1	1	9	7	16
Hastings	.....	.....	.....	5	8	13
Huron	9	4	13	94	95	189
Kent	7	2	9	67	85	152
Lambton	12	7	19	125	86	211
Lanark	.....	.....	.....	2	3	5
Leeds and Grenville	.....	.....	.....	.....	5	5
Lennox and Addington	.....	.....	.....	3	1	4
Lincoln	.....	.....	.....	10	6	16
Middlesex	21	9	30	261	230	491
Muskoka District	.....	.....	.....	.....	.....	.....
Norfolk	.....	.....	.....	29	34	63
Northumberland and Durham	.....	.....	.....	14	10	24
Ontario	.....	.....	.....	6	13	19
Oxford	2	6	8	101	78	179
Peel	.....	.....	.....	4	5	9
Perth	12	5	17	84	70	154
Peterborough	.....	.....	.....	1	5	6
Prescott and Russell	.....	.....	.....	2	3	5
Prince Edward	.....	.....	.....	1	1	2
Renfrew	.....	.....	.....	.....	.....	.....
Simcoe	.....	.....	.....	13	21	34
Stormont, Dundas and Glengarry	.....	.....	.....	5	5	10
Victoria	.....	.....	.....	12	14	26
Waterloo	.....	.....	.....	33	23	56
Welland	.....	.....	.....	8	6	14
Wellington	.....	.....	.....	20	15	35
Wentworth	.....	.....	.....	11	17	28
York	.....	.....	.....	45	45	90
Not Classed	.....	.....	.....	25	10	35
Total admissions	80	52	132	1267	1175	2442

TABLE No. 4.

Shewing the Counties from which warranted cases have been admitted up to 30th September, 1884.

COUNTIES.	Admitted During Year.			Total Admissions.		
		Female.	Total.	Male.	Female.	Total.
Algoma District	2	.....	2	3	.....	3
Brant	.....	.....	.....	19	11	30
Bruce	3	3	6	32	19	51
Carleton	.....	.....	.....	.....	2	2
Dufferin	.....	.....	.....	.....	.....	.....
Elgin	3	1	4	22	10	32
Essex	1	3	4	29	16	45
Frontenac	.....	.....	.....	.....	1	1
Grey	.....	.....	.....	8	7	15
Haldimand	.....	.....	.....	10	3	13
Halton	.....	.....	.....	6	3	9
Hastings	.....	.....	.....	2	5	7
Huron	3	2	5	41	27	68
Kent	1	1	25	25	10	35
Lambton	4	3	7	73	28	101
Lanark	.....	.....	.....	.....	1	1
Leeds and Grenville	.....	.....	.....	.....	.....	.....
Lennox and Addington	.....	.....	.....	1	.....	1
Lincoln	.....	.....	.....	8	1	9
Middlesex	3	2	5	67	47	114
Muskoka District	.....	.....	.....	.....	.....	.....
Norfolk	.....	.....	.....	21	11	32
Northumberland and Durham	.....	.....	.....	4	2	6
Ontario	.....	.....	.....	1	5	6
Oxford	2	2	4	45	18	63
Peel	.....	.....	.....	3	4	7
Perth	3	1	4	35	13	48
Peterborough	.....	.....	.....	1	5	6
Prescott and Russell	.....	.....	.....	1	1	2
Prince Edward	.....	.....	.....	.....	1	1
Renfrew	.....	.....	.....	.....	.....	.....
Simcoe	.....	.....	.....	5	8	13
Stormont, Dundas and Glengarry	.....	.....	.....	1	0	1
Victoria	.....	.....	.....	9	9	18
Waterloo	.....	.....	.....	17	8	25
Welland	.....	.....	.....	3	4	7
Wellington	.....	.....	.....	13	11	24
Wentworth	.....	.....	.....	6	9	15
York	.....	.....	.....	27	24	51
Not Classed	.....	.....	.....	.....	.....	.....
Total admissions	25	18	43	538	324	862

TABLE No. 5.

Shewing the length of Residence in the Asylum of those discharged during the year

No.	Initials.	Sex.	When Admitted.	When Discharged.	Remarks.
1	A. McD...	F. ...	June 5, 1883.....	October 9th, 1883....	Improved.
2	P. N.....	M....	July 3, 1883.....	" 9th, "	Recovered.
3	M. McD..	F.....	August 12, 1879.....	" 18th, "	"
4	J. D.....	F.....	November 20, 1882.....	" 23rd, "	Unimproved.
5	M. R.....	F.....	May 12, 1883	" 27th, "	Recovered.
6	W. H.....	M.....	August 21, 1883.....	" 27th, "	"
7	A. D.....	F.....	March 15, 1883.....	November 8th, "	Unimproved.
8	J. C	F.....	November 14, 1883.....	" 19th, "	Recovered.
9	J. L.....	M.....	November 2, 1883.....	" 19th, "	"
10	E. A. C ...	F.....	July 23, 1883	" 26th, "	Improved.
11	A. F.....	F.....	January 4, 1883.....	December 1st, "	Recovered.
12	W. R.....	M.....	May 5, 1883.....	" 6th, "	"
13	D. F.....	F.....	July 24, 1882	" 6th, "	Improved.
14	S. P.....	F.....	September 7, 1883.....	" 7th, "	Recovered.
15	M. G	M.....	March 16, 1883.....	" 10th, " ...	"
16	W. R.....	M.....	May 23, 1882.....	" 13th, "	Improved.
17	E. B.....	F.....	April 13, 1883	" 26th, "	Recovered.
18	A. G.....	F.....	August 17, 1883.....	" 26th, "	Improved.
19	J. M.....	M.....	October 27, 1883	January 2nd, 1884....	Recovered.
20	C. B.....	F.....	November 28, 1882.....	" 3rd, "	Unimproved.
21	G. S.....	M.....	March 19, 1882	" 10th, "	Improved.
22	M. McK..	F.....	November 30, 1883.....	" 15th, "	Unimproved.
23	H. D.....	F.....	August 10, 1882.....	" 19th, "	Recovered.
24	J. P.....	F.....	July 9, 1883	" 21st, "	Improved.
25	E. H.....	F.....	December 28, 1882.....	" 22nd, "	Recovered.
26	E. R.	M.....	April 24, 1883	" 24th, "	"
27	G. G.....	F.....	July 25, 1883	February 1st, "	Improved.
28	M. J. P...	F.....	September 20, 1883.....	" 1st, "	Recovered.
29	H. McI...	M.....	December 4, 1883	" 1st, "	"
30	M. R.....	M.....	September 10, 1883.... .	" 4th, "	"
31	J. W.....	M.....	April 27, 1883	" 9th, "	Improved.
32	A. R.....	F.....	June 5, 1883.....	" 23rd, "	"
33	J. R.....	M.....	October 30, 1883	" 28th, "	"
34	B. G.....	F.....	August 18, 1883.....	March 6th, "	Recovered.
35	E. L. Y...	F.....	January 10, 1884.....	" 12th, "	Not insane.
36	J. S.....	M.....	August 16, 1883.....	" 27th, "	Recovered.
37	D. M.....	M.....	October 5, 1883	" 27th, "	Unimproved.
38	A. H.....	F.....	November 13, 1883.....	April 15th, "	Recovered.
39	J. McM...	M.....	September 22, 1883	" 21st, "	Improved.
40	J. K.....	F.....	June 16, 1883.....	" 24th, "	Recovered.
41	M. B. Q..	M.....	May 9, 1883	" 30th, "	Unimproved.
42	F. H.....	M.....	October 17, 1883.....	May 1st, "	Recovered.
43	C. D.....	M.....	July 15, 1881	" 3rd, "	Improved.
44	M. McL...	F.....	November 14, 1882.....	" 16th, "	Recovered.
45	J. R.....	F.....	January 2, 1884.....	" 28th, "	Recovered.
46	D. W.....	M.....	September 17, 1880.....	" 29th, "	Unimproved.
47	J. K.....	M.....	January 23, 1884.....	" 31st, "	Improved.
48	C. D.....	M.....	June 9, 1883.....	June 3rd, "	Recovered.
49	J. M.....	M.....	May 21, 1883.....	" 7th, "	Improved.
50	G. F.....	M.....	June 2, 1883.....	" 18th, "	Recovered.
51	S. A. M...	F.....	January 5, 1884.....	" 23rd, "	"
52	A. McD...	M.....	November 30, 1884.....	" 26th, "	"
53	J. A.....	M.....	May 1, 1884.....	" 26th, "	"
54	M. B.....	F.....	November 20, 1883.....	July 17th, "	Improved.
55	E. H.....	F.....	March 27, 1882.....	" 22nd, "	"

TABLE No. 5.—*Continued.*

Shewing the length of Residence in the Asylum of those discharged during the year.

No.	Initials.	Sex.	When Admitted.	When Discharged.	Remarks.
56	E. M.....	F.....	April 16, 1884.....	July 29th, "	Recovered.
57	G. S.....	M.....	June 20, 1884.....	August 11th, "	"
58	J. McA...	M. ...	August 20, 1883.....	" 11th, "	Improved.
59	J. W.....	M.....	December 5, 1883	" 12th, "	"
60	E. S.....	F.....	January 9, 1884.....	" 16th, "	Recovered.
61	R. R.....	M.....	January 5, 1884	" 25th, "	"
62	M. G.....	F.....	March 9, 1882.....	September 9th, "	"
63	M. J. W..	F.....	October 2, 1883	" 9th, "	"
64	E. McK...	M.....	December 5, 1883.....	" 18th, "	"
65	J. W.....	M.....	September 7, 1882.....	" 23rd, "	"
66	B. McD...	M.....	June 26, 1884.....	" 25th, "	"
67	A. F.....	M.....	November 18, 1870.....	" 29th, "	Improved.

TABLE No. 6.

Shewing age, length of residence, and proximate cause of death of those who died during the year ending 30th November, 1884.

No.	Initials.	Sex.	Age.	Date of Death.	Residence in Asylum.			Proximate Cause of Death
					Years	Months.	Days.	
1	J. C.....	M	70	October 5, 1883..	3	11	12	Heart Disease.
2	W. S. C...	M	66	" 5, " ..	2	10	26	Senile Decay.
3	J. A	M	28	" 24, " ..	2	4	28	Epilepsy.
4	J. G	M	70	" 27, " ..	.....	2	12	Senile Decay.
5	R. M	F	68	" 29, " .	12	11	6	Bronchitis.
6	J. W.....	F	50	" 29, " ..	12	6	22	Heart Clot.
7	C. McR ...	F	50	November 3, " .	1	1	18	Cholera Morbus.
8	G. B	M	53	" 13, " ..	8	9	22	Stricture of Bowel.
9	B. S.....	F	41	" 21, " ..	11	1	16	Pneumonia.
10	H. B.....	F	83	December 7, " ..	5	8	25	Gangrene of Foot.
11	E. H	F	48	" 18, " ..	2	2	7	Heart Clot.
12	J. F	M	35	" 19, " ..	12	2	9	Epilepsy.
13	G. S	M	43	" 21, " ..	2	.....	23	Softening of Brain.
14	M. H	M	37	" 29, " ..	6	9	24	Phthisis.
15	B. L	M	64	" 31, " ..	2	2	18	Apoplexy.
16	S. B	F	76	January 3, 1884..	1	.....	16	Senile Decay.
17	W. G	M	42	" 12, " ..	2	2	30	Heart Clot.
18	O. O	M	72	" 12, " ..	11	4	20	Apoplexy.
19	J. H. E ...	M	55	" 19, " ..	.....	10	26	Marasmus.
20	M. McD ..	F	33	" 31, " ..	6	6	22	Diarrhœa.
21	D. H	M	35	February 13, " ..	.....	.....	14	Heart Clot.
22	J. L	M	36	" 17, " ..	.....	6	20	Phthisis.
23	W. C. B...	M	50	" 17, " ..	.....	3	11	Epilepsy.
24	J. L	M	61	" 26, " ..	12	2	11	Apoplexy.
25	S. N	F	50	March 4, " ..	13	3	10	Cancer of Tongue.
26	E. McM...	F	63	" 5, " ..	.....	1	5	Exhaustion Ac. Mania.
27	J. B	M	59	" 6, " ..	8	7	28	Apoplexy.
28	J. McP ...	M	41	" 9, " ..	4	9	12	Heart Disease.
29	W. A	M	74	" 13, " ..	9	5	4	Haematemesis.
30	A. G	F	40	April 3, " ..	.....	4	8	Phthisis.
31	J. D	F	29	" 7, " ..	8	10	19	Epilepsy.
32	E. E	F	41	" 15, " ..	.....	.....	19	Marasmus.
33	W. T	M	54	" 20, " ..	.....	2	25	Suicide.
34	J. B	M	49	" 21, " ..	.....	3	.....	Exhaustion Ac. Mania.
35	R. W	F	31	" 25, " ..	.....	10	21	Removal of Uterus.
36	W. E	M	56	May 3, " ..	.....	.....	11	Phthisis.
37	M. S	F	40	" 3, " ..	3	4	19	Phthisis.
38	A. R	M	76	" 8, " ..	13	5	20	Softening of Brain.
39	C. T	M	25	" 8, " ..	2	10	21	Phthisis.
40	J. R	M	47	" 19, " ..	2	7	6	Apoplexy.
41	J. E	F	45	" 19, " ..	12	3	.....	Phthisis.
42	J. E	M	54	June 11, " ..	9	3	23	Aneurism of Aorta.
43	J. B	M	50	" 20, " ..	8	8	21	Phthisis.
44	H. G	M	42	" 26, " ..	3	5	2	Diarrhœa.
45	C. R	F	46	July 11, " ..	2	6	28	Bright's Disease.
46	W. E	M	32	" 22, " ..	.....	8	27	Marasmus.
47	F. W. V ..	M	45	August 11, " ..	2	10	20	Epilepsy.
48	J. S.....	M	65	" 25, " ..	2	2	6	Marasmus.
49	L. McM ..	M	64	" 25, " ..	4	2	1	Marasmus.
50	B. R	M	78	September 24, " ..	7	11	29	Emphysema of Lungs.

TABLE NO. 7.

Shewing Trades, Callings and Occupations of Patients admitted into the Asylum.

Trades, Callings and Occupations.	During the Year.			During Former Years.			Total.
	Males.	Females	Total.	Males.	Females	Total.	
Agents	.....	.....	.....	4	.....	4	4
Book-keepers	.....	.....	.....	2	.....	2	2
Bakers	.....	.....	.....	3	.....	3	3
Bricklayers	.....	.....	.....	2	.....	2	2
Butchers	.....	.....	.....	7	.....	7	7
Blacksmiths	.....	.....	.....	11	.....	11	11
Brass-finishers	.....	.....	.....	2	.....	2	2
Brewers	.....	.....	.....	2	.....	2	2
Barbers	1	.....	1	2	.....	2	3
Broom-makers	.....	.....	.....	2	.....	2	2
Commercial travellers	.....	.....	.....	1	.....	1	1
Cabinet-makers	1	.....	1	5	.....	5	6
Confectioners	.....	.....	.....	2	.....	2	2
Coopers	1	.....	1	9	.....	9	10
Carpenters	6	.....	6	33	.....	33	39
Clerks	4	.....	4	21	.....	21	25
Clergymen	.....	.....	.....	1	.....	1	1
Coppersmiths	.....	.....	.....	1	.....	1	1
Dyers	.....	.....	.....	1	.....	1	1
Domestic servants, all kinds	.....	5	5	4	154	158	163
Dressmakers	.....	2	2	.....	7	7	9
Druggists	.....	.....	.....	1	.....	1	1
Engineers	.....	.....	.....	5	.....	5	5
Farmers	34	.....	34	422	9	431	465
Fishermen	.....	.....	.....	2	1	3	3
Founders	.....	.....	.....	1	.....	1	1
Ferrymen	.....	.....	.....	2	.....	2	2
Furriers	.....	.....	.....	.....	1	1	1
Gardeners	.....	.....	.....	8	.....	8	8
Hucksters	.....	.....	.....	.....	1	1	1
Hatters	.....	.....	.....	1	.....	1	1
Hostlers	.....	.....	.....	1	.....	1	1
Harness-makers	1	.....	1	.....	.....	.....	1
Housekeepers	.....	37	37	.....	676	676	713
Hack-drivers	1	.....	1	.....	.....	.....	1
Jewellers	.....	.....	.....	3	.....	3	3
Labourers	18	.....	18	318	.....	318	336
Laundresses	.....	1	1	.....	1	1	2
Ladies	.....	.....	.....	.....	8	8	8
Lawyers	.....	.....	.....	1	.....	1	1
Lumbermen	.....	.....	.....	1	.....	1	1
Milliners	.....	.....	.....	.....	11	11	11
Masons	.....	.....	.....	7	.....	7	7
Machinists	.....	.....	.....	7	.....	7	7
Matchmakers	.....	.....	.....	1	.....	1	1
Millers	.....	.....	.....	8	.....	8	8
Moulders	1	.....	1	4	.....	4	5
Merchants	2	.....	2	22	.....	22	24
Music-teachers	.....	.....	.....	1	1	2	2
Marble-cutters	1	.....	1	.....	.....	.....	1
No occupation	1	1	2	.....	.....	.....	2
Nurses	.....	.....	.....	.....	1	1	1
Not stated	.....	5	5	.....	.....	.....	5
Organ-builders	.....	.....	.....	1	.....	1	1
Plasterers	.....	.....	.....	3	.....	3	3
Pensioners	.....	.....	.....	4	.....	4	4

TABLE NO. 7.—*Continued.*

Shewing Trades, Callings and Occupations of Patients admitted into the Asylum.

Trades, Callings and Occupations.	During the Year.			During Former Years.			Total.
	Males.	Females	Total.	Males.	Females	Total.	
Photographers	.....	.....	.....	4	.....	4	4
Prostitutes	.....	.....	.....	.....	6	6	6
Painters	1	.....	1	13	.....	13	14
Printers	.....	.....	.....	8	.....	8	8
Peddlers	1	.....	1	2	1	3	4
Physicians	.....	.....	.....	5	.....	5	5
Sailors	.....	.....	.....	5	.....	5	5
Students	.....	.....	.....	13	.....	13	13
Spinners	.....	.....	.....	.....	2	2	2
Sisters of Charity	.....	.....	.....	.....	1	1	1
Soda-water manufacturers	.....	.....	.....	1	.....	1	1
Stone-cutters	.....	.....	.....	3	.....	3	3
Showmen	.....	.....	.....	2	.....	2	2
Saddlers	.....	.....	.....	4	.....	4	4
Shoemakers	2	.....	2	18	.....	18	20
Seamstresses	.....	.....	.....	.....	9	9	9
Slaters	.....	.....	.....	1	.....	1	1
Soldiers	.....	.....	.....	1	.....	1	1
Surveyors	1	.....	1	1	.....	1	2
Ship-builders	.....	.....	.....	2	.....	2	2
Teachers	1	.....	1	14	10	24	25
Tinsmiths	1	.....	1	4	.....	4	5
Tavern-keepers	.....	.....	.....	7	1	8	8
Tailors	.....	1	1	19	3	22	23
Tanners	.....	.....	.....	4	.....	4	4
Toll-gate keepers	.....	.....	.....	2	.....	2	2
Watchmakers	.....	.....	.....	6	.....	6	6
Wood-workers	.....	.....	.....	1	.....	1	1
Weavers	.....	.....	.....	.....	2	2	2
Wheelwrights	.....	.....	.....	1	.....	1	1
Waggon-makers	1	.....	1	4	.....	4	5
Unknown or other employments	.....	.....	.....	104	216	320	320
Total	80	52	132	1188	1122	2310	2442

TABLE No. 8.

Shewing causes of Insanity.

CAUSES OF INSANITY. In respect of the admissions for the year ending 30th September, 1884.	Number of instances in which each cause was assigned.					
	As predisposing cause.			As exciting cause.		
	Male.	Female.	Total.	Male.	Female.	Total.
Moral.						
Domestic troubles, including loss of relatives or friends	1		1	4	2	6
Religious excitement				8	3	11
Adverse circumstances, including business troubles				8	1	9
Love affairs, including seduction				1	2	3
Mental anxiety—worry				1	2	3
Fright and nervous shocks					4	4
Physical.						
Intemperance in drink	3		3	3		3
" sexual	1		1			
Venereal disease						
Self-abuse, sexual	2		2	4	1	5
Over-work	1		1	2		2
Sunstroke				3		3
Accident or injury	1		1	4		4
Pregnancy					1	1
Puerperal					3	3
Lactation		1	1			
Puberty and change of life					1	1
Uterine disorders					3	3
Brain disease, with general paralysis						
" " epilepsy				4	1	5
Other forms of brain disease				2		2
Other bodily diseases or disorders, including old age				1	2	3
Fevers				1	1	2
Hereditary.						
With other ascertained cause in combination						
With other combined cause not ascertained	14	9	23			
Congenital.						
With other ascertained cause in combination						
With other combined cause not ascertained						
Unknown	57	42	99	34	25	59
Total	80	52	132	80	52	132

TABLE No. 9.

Shewing the Probational Discharges and the result thereof.

Reg. No.	Sex.	Initials.	Date of Probational Discharge.	Term of Probation.	Result.
2201	M	G. H.	October 4, 1883	3 Months	Returned.
2137	F	D. F.	" 5, "	2 "	Discharged.
2304	F	S. P.	" 6, "	2 "	"
1315	F	A. McC.	" 12, "	2 "	Returned.
2289	F	G. G.	" 19, "	3 "	Discharged.
2159	M	J. W.	" 23, "	2 "	Returned.
2257	M	W. R.	" 30, "	1 "	Discharged.
2283	F	M. A. S.	" 31, "	2 "	Returned.
2212	F	A. F.	" 31, "	1 "	Discharged.
1645	F	E. J.	Nove'ber 1, "	3 "	Returned.
2111	M	W. R.	" 2, "	1 "	Discharged.
1866	M	A. C. S.	" 5, "	3 "	Returned.
2319	F	E. D.	" 17, "	1 "	"
2298	F	A. M. G.	" 17, "	1 "	Discharged.
2321	M	J. M.	" 20, "	1 "	"
2207	F	E. H.	" 21, "	2 "	"
2313	F	G. B.	" 22, "	6 "	Returned.
2306	M	M. R.	" 24, "	2 "	Discharged.
2262	M	J. J. M.	Dece'ber 6, "	6 "	"
2271	F	A. R.	" 8, "	2 "	"
2290	M	W. G.	" 11, "	6 "	Returned.
2250	M	E. R.	" 13, "	1 "	Discharged.
2280	F	J. P.	" 22, "	1 "	"
1455	M	C. H.	" 23, "	3 "	Returned.
2253	M	J. E. W.	" 26, "	2 "	Discharged.
2322	M	J. R.	" 28, "	2 "	"
2341	M	H. McI.	" 29, "	1 "	"
2299	F	B. G.	" 29, "	2 "	"
2309	F	M. P.	" 31, "	1 "	"
2297	M	J. S.	Ja'uary 12, 1884	2 "	"
2187	F	M. McL.	Feb'ua'y 4, "	3 "	"
2268	M	G. F.	" 7, "	4 "	"
2327	F	A. H.	" 13, "	2 "	"
2360	M	W. T.	March 15, "	2 "	Committed Suicide.
2293	M	J. McD.	" 18, "	6 "	Returned.
2348	F	J. R.	" 21, "	2 "	Discharged.
2336	M	A. McD.	" 22, "	3 "	"
2349	F	S. M.	April 12, "	2 "	"
2339	M	J. F.	" 12, "	6 "	Still out.
2351	F	J. C.	" 28, "	6 "	Returned.
2273	F	A. B.	" 28, "	6 "	Still out.
2343	M	J. W.	" 30, "	3 "	Discharged.
2295	M	H. H.	May 1, "	3 "	Returned.
2272	M	C. D.	" 2, "	1 "	Discharged.
2386	F	E. M.	" 16, "	2 "	"
2331	F	M. G. B.	" 17, "	2 "	"
1346	F	S. M.	" 20, "	2 "	Returned.
2308	M	W. J. R.	" 22, "	6 "	Still out.
2183	F	M. G.	" 27, "	3 "	Discharged.
2352	F	E. S.	June 3, "	2 "	"
1805	M	S. C.	" 4, "	6 "	Still out.
2016	F	S. L.	" 11, "	6 "	"
2311	F	M. J. W.	" 11, "	2 "	Discharged.
2252	M	J. C. S.	" 17, "	6 "	Still out.
2313	F	G. B.	" 23, "	4 "	"
2087	F	E. A. H.	" 25, "	3 "	Discharged.
358	M	A. F.	" 26, "	3 "	"
1474	F	E. R.	July 4, "	3 "	Returned.
2239	M	G. E. M.	" 9, "	3 "	Still out.
2413	M	G. S.	" 10, "	1 "	Discharged.

TABLE No. 9.—*Continued.*

Shewing the Probational Discharges and the result thereof.

Reg. No.	Sex.	Initials.	Date of Probational Discharge.	Term of Probation.	Result.
2342	M	E. McK...	July 15, 1884	2 Months	Discharged.
2159	M	J. W.....	" 21, "	2 "	"
2363	M	A. C.....	August 1, "	2 "	Still out.
2414	M	B. McD...	" 13, "	2 "	Discharged.
2356	F	J. A. A...	" 13, "	3 "	Still out.
1876	M	J. O'D....	" 15, "	6 "	"
1957	F	M. McN...	" 20, "	1 "	"
2367	M	W. S.....	" 25, "	3 "	"
2319	F	E. D.....	Sept'ber 4, "	2 "	"
2373	F	J. McD....	" 6, "	2 "	"
2419	F	M. McD...	" 6, "	1 "	"
2290	M	W. J. G...	" 11, "	3 "	"
2389	M	J. C.....	" 23, "	3 "	"
2364	M	J. C.....	" 24, "	3 "	"

TABLE No. 10.

PERIODS.	Duration of insanity prior to admission.	Length of residence of those remaining in Asylum on 30th September.	Periods of treatment of those who were discharged cured during the year.	Periods of treatment of those who were discharged improved during the year.	Periods of treatment of those who were discharged unimproved during the year.
Unknown	11				
Under 1 month	31	11			
From 1 to 2 months	12	6	3		1
" 2 " 3 "	16	9	4		
" 3 " 4 "	9	7	3	1	
" 4 " 5 "	5	11	3	4	
" 5 " 6 "	2	15	3		1
" 6 " 7 "	2	9	3	3	
" 7 " 8 "	3	5	4	1	1
" 8 " 9 "	2	5	2	2	
" 9 " 10 "	2	7	2	1	
" 10 " 11 "	1	9	2		
" 11 " 12 "		7	2	1	2
" 12 " 18 "	11	33	5	2	1
" 18 months to 2 years	2	34	2	2	
" 2 to 3 years	7	83	1	2	
" 3 " 4 "	3	63			1
" 4 " 5 "	4	60			
" 5 " 6 "	4	51			
" 6 " 7 "	1	76			
" 7 " 8 "		34			
" 8 " 9 "	1	31			
" 9 " 10 "		32			
" 10 " 15 "	1	125		1	
" 15 " 20 "	2	28			
" 20 years and upwards		156			
Totals	132	907	39	20	7

TABLE No. 11.

Shewing the nature of employment and the number of days' work performed by patients during the year.

NATURE OF EMPLOYMENT.	Average Number of Patients who worked.	Days Worked.		
		Male.	Female.	Total.
Carpenter's Shop	9	2684	....	2684
Tailor's Shop	3	956	....	956
Shoe Shop	2	618	....	618
Engineer's Shop	4	1101	....	1101
Blacksmith's Shop	....	....	....	....
Mason Work	3	1093	....	1093
Repairing Roads	....	....	....	....
Wood Yard and Coal Shed	6	1828	....	1828
Bakery	2	701	....	701
Laundry	16	1854	3078	4932
Dairy	2	370	344	714
Butcher's Shop and Slaughter House	4	1343	....	1343
Piggery	....	....	....	....
Painting	4	1323	....	1323
Farm	22	6786	....	6786
Garden	27	8137	....	8137
Grounds	....	....	....	....
Stable	4	1331	....	1331
Kitchen	29	2466	6237	8703
Dining Rooms	35	2969	7595	10564
Officers' Qnarters	....	....	....	....
Sewing Rooms	80	....	24039	24039
Knitting	171	1325	49898	51223
Spinning	....	....	....	....
Mending	27	....	8079	8079
Wards	....	....	....	....
Halls	184	24542	30731	55273
Storeroom	2	533	....	533
General	153	43632	2440	46072
Total	789	105592	132441	238033

TABLE NO. 12.

Number of Articles made and repaired in the Wards during the year ending September 30th, 1884.

——	Made.	Repaired.	——	Made.	Repaired.
Dresses	488	4201	Stockings	.....	4746
" Uniform	31	6	Hats, straw, trimmed	100	133
Skirts	691	2687	Neckties and Scarfs	214	.....
Chemises	903	3778	Pillow Slips	1189	1134
" Flannel	73	612	Sheets	526	1575
Drawers	236	2324	Quilts, hemmed	329	1223
Nightdresses	150	1600	" Canvas	5	.....
Aprons	1302	2474	Blankets	.....	1788
Guernseys	.....	115	Ticks	288	5471
Shirts	318	1526	Pillows	168	.....
" Flannel	.....	699	Matrasses, teasell	284	.....
Pants	361	1176	Towels	780	.....
Coats	150	926	Mats	270	.....
Vests	134	553	Tablecloths	15	.....
Blouses	4	188	Table Napkins	41	.....
" Pants	.....	67	Carpets	5	.....
Caps, women's	12	.....	Bureau Covers	3	.....
" Men's	.....	58	Iron holders	9	.....
Collars	1	.....	Clothes Bags	8	.....
Socks, marked	24	1428	Total	9112	40488

TABLE NO. 13.

Number of Articles made and repaired in Sewing Room during the year ending September 30th, 1884.

——	Made.	Repaired.	——	Made.	Repaired.
Dresses	523	.....	Bolsters "	2	.....
" Uniform	31	2	" Slips	4	.....
Skirts	44	1	Pillow Slips	110	13
Aprons	322	.....	Matrasses	284	.....
Chemises	6	.....	Quilts	0	18
" Flannel	29	.....	" Canvas	3	4
Drawers	2	.....	Sheets	6	115
" Flannel	4	78	Blinds	88	.....
Caps, women's	169	.....	Table Napkins	22	.....
Collars	216	.....	Bagetelle Table Cover	1	.....
Cuffs, pairs of	12	.....	Crumb Cloths	3	.....
Nightdresses	4	.....	Oil Cloth, waggon cover	2	.....
Jackets	13	.....	Bags	.....	18
Bonnets	16	.....	Carriage Cushion	.....	1
Hats, straw, trimmed	144	.....	Horse Blankets	.....	6
Slippers, cloth, pairs of	67	1	Buffalo Robes	.....	2
Slippers, uppers, pairs of	209	.....	Carriage Rug	.....	1
Shirts	291	836	Carpets	2	5
" Flannel	164	41	Hearth Rug	.....	1
Socks, pairs of	.....	2551	Stair Pads	42	.....
Towels	4	.....	Tea Strainers	6	.....
Ticks	156	101	Cricket Gloves, pairs of	.....	3
Pillow Ticks	80	4	" Pads	.....	4
Pillows, hair	31	.....	Total	3139	3806
" Feathers	27	.....			

TABLE No. 14.

Number of Articles passing through the Laundry during the year ending September 30th, 1884.

——	No.	——	No.
Dresses	12,015	*Brought forward*	214,586
Night Dresses	8,020	Coats	1,704
Aprons	26,190	Vests	846
Pinafores	1,588	Blouses	331
Skirts	6,451	" Pants, and Overalls	361
Drawers	15,690	Sheets	94,131
Chemises	35,327	Quilts	15,949
" Flannel	1,178	" Canvas	314
Waists	2,457	Pillow Slips	61,394
Caps	1,096	Bolster Slips	311
Shawls and Cloaks	55	Bed Ticks	14,541
Bonnets	9	Pillow Ticks	9
Handkerchiefs	12,121	Towels	46,791
Collars	11,250	Bureau Covers	958
Bibs, etc., etc	4,241	Blankets	9,092
Neckties and Scarfs	1,831	Table Cloths	902
Cuffs (pairs of)	920	Table Napkins	4,866
Mitts "	2	Crumb Cloths	29
Stockings "	21,911	Curtains and Blinds	199
Socks "	19,397	Carpets	9
Shirts	24,095	Carrirge Dusters	42
" Flannel	4,542	Clothes Bags	86
Guernseys	2,506	Pudding Cloths	2,575
Pants	1,694	Total	470,026
Carried forward	214,586		

TABLE No. 15.

Amount of Knitting done in wards during the year ending September 30th, 1884:

Stockings	724	Pairs.
" refooted	183	"
Socks	1,359	"
"	240	"
Mitts	230	"
Gloves	3	"
Cuffs	4	"
Total	2,743	"

Number of Articles made and repaired in Tailor's Shop during the year ending September 30, 1884:

	Made.	Repaired.
Pants	261	172
" uniform	56	17
Coats	206	93
" uniform	40	15
Vests	189	25
Overalls	16	.....
Blouses	121	79
" pants	73	53
Overcoats	2	1
Total	964	455

Amount of work done in Shoemaker's Shop during the year ending Sept. 30, 1884

Slippers—canvas	347	Pairs.
" carpet	78	"
" leather	14	"
Boots	10	"
Shoes	1	"
Total	450	"
Repairs—Soles	99	
Heels	108	
Patches	97	
Seams	115	

ASYLUM FOR THE INSANE, TORONTO.

October 1st, 1884.

To the Inspector of Prisons and Public Charities:

Sir,—As required by statute I have the honour to herewith present the Forty-Fourth Annual Report of this Asylum, beginning with October 1st, 1883, and ending with September 30th, 1884.

The usual information regarding the working of this Asylum, as well as the required statistics, are herewith appended.

Admissions and Recoveries.

There were 143 admissions during the year. Out of that number forty-nine recovered. This makes about thirty-three and a-third per cent. of these patients admitted. Last year the proportion was forty per cent. Percentages of recoveries must always fluctuate greatly, as so much must depend on the condition, age of the patient, and duration of the disease in each case. One year a large number of those brought under Asylum treatment may be acute cases, concerning whom we may hope much. Another year the admissions may largely consist of the aged and chronics, in whom recovery is the exception. The admissions of epileptics, paretics, consumptives, and those with hereditary tendencies, vary from year to year, yet such cases in excess must necessarily increase the death rate and diminish the ratio of recoveries.

It is worthy of note that out of 5,821 admitted patients, 1,155 have been from the City of Toronto, or about twenty per cent. of our population. During the past year fifty-five patients were admitted from Toronto, or more than one-third of the admissions. When it is considered that our Asylum district extends from Halton County on the west to Addington County on the east, and on the north includes Muskoka and Parry Sound districts, it will be seen that Toronto contributes a no small share of the Asylum population. Of course it is always to be remembered that large cities are centres, where the afflicted are apt to congregate, and that many found within these corporations rightly belong to outside districts. With all due allowance for such, it is evident that a permanent population of about 100,000 contributes a large proportion of insane.

Applications.

There were 102 applications for the year. Of that number forty-two were males and sixty were females. Those patients consisted of those for whom room could not be made; of those for whom friends applied and afterward retained the patients at home, and also, of those who being idiotic or paralytic were thereby not fit subjects for Asylum custody or treatment. Scant courtesy is sometimes awarded to us by those relatives to whom vacancies were awarded for insane persons, but not having been taken advantage of, no intimation had been given to us to that effect. These applicants seem to think that a vacancy should be indefinitely kept, to suit their convenience. A delay to award a vacancy is often vehemently protested against, but tardiness to notify us that it is not needed is of no consequence to unreasonable or unreasoning friends. Their needs come home to themselves, those of others are of no consequence.

Deaths.

The deaths were fifty-two as against thirty-nine last year. The total number under treatment in 1883 was 863, and in 1884 it was 846. This would make for the previous year a percentage of 4.50, and for 1884, a percentage of 6.1. This is the largest death rate we have had for several years. It is still below the average Asylum mortality, which is put by competent statistical authorities at seven per cent. The mortality among the aged and deaths from acute diseases have largely contributed to swell our death rate. Seventeen died from consumption in its latent form. This cause of death is the bane of the insane. The connection between tuberculous lung disease and brain troubles is a general condition

with local manifestations not yet clearly understood. It, no doubt, lies in depreciated organic life, engendered by low vitality in the nourishing nerve centres of the body, but in what way can only be conjectured by analogy with other diseases. We take refuge from our ignorance by applying medical terms to phenomena, but the physical facts lie unexplored behind appearances. Pathology gives us a description of the ruins left by disease, but contributes no historic chapter to explain the mode of action of the vital power which has failed to save life and which has left behind it only the products of disintegration and decay.

The following table is interesting to show how long insanity can exist compatible with otherwise good health. A large number of very aged patients are still well conditioned in our wards. Good diet, regular habits and cleanliness, contribute largely to longevity, even among the insane.

Deaths of aged persons, 1884.

Reg. No.	Initials of Name.	Age. — Years.	Time in Asylum. Years.	Months.	Days.	Cause of Death.
2052	A. R.	81	25	7	10	Senile Decay.
1726	E. McC	68	27	11	24	Diarrhœa.
2891	J. H	75	20	7	6	Paralysis.
2099	J. C	48	25	4	26	Phthisis.
1829	N. S	71	27	3	18	Killed.
2668	M. A. S	48	22	2	27	Phthisis.
3177	M. J. C	48	19	0	22	Anasasca.
5421	M. C	74	1	10	20	Senile Decay.
4645	G. W.	72	7	7	2	Epilepsy.
5305	J. E.	79	2	6	5	Senile Decay.
5199	W. H. P	70	5	3	3	Diarrhœa.
4913	E. M.	79	7	0	25	Senile Decay.

Three of the persons whose names are recorded in the above table were only middle aged, but their Asylum residence included the best part of their lives. Five patients were brought to us in a dying condition, and only lived a few days after their admission. The exercise of ordinary medical judgment should have suggested the cruelty of moving such from their homes to an Asylum, when it was evident to even a casual observer that they were dying, and nothing short of a miracle could save them. The medical men who sent to us these afflicted persons were saved from registering the death certificates. Occasionally an outbreak of violent and acute mania may be followed in a few days, or even hours, by death from exhaustion. In such cases it may be best to seek asylum shelter and treatment as soon as possible, hoping thereby to save reason and life, but only in one of the above recorded cases did this condition exist. The others had been kept at home for lengthened periods, and were only sent to us as a last resort.

On April 1st two patients, named respectively Rachel Stephens and Valeria McKinley, occupied one room in the refractory ward. The former was a harmless person, and the latter was melancholy but quiet, and although she had been many hears in the Asylum, she was never known to have assaulted anyone. The two had occupied together the same room for over a month in the most peaceful manner, and no danger was apprehended, except that of suicide by Valeria McKinley. About half-past six o'clock a.m. one of the nurses on duty heard the sound of blows in this room, and immediately attempted to open the door, but found it barricaded. Other nurses were called and the door forcibly opened, against which was put a bedstead. Rachel Stephens was found on the floor in a dying state from blows which had been inflicted by V. McKinley with the wooden night-pail. V. McKinley was reported quiet by the watch during the night. From the evidence, it

seems that V. McKinley must have broken out into a paroxysm of homicidal mania. When the door was burst open she exclaimed, "I asked her to kill me, and because she refused I killed her." Her fury continued all day, but towards evening she gradually became comatose, and the next day after the killing she died without coming to consciousness. A *post mortem* examination was held on her by Dr. Sheard, pathologist, of this city. Two inquests were held by Dr. Duncan, coroner, and the verdicts of the respective juries were as follows, viz. :—

"That Rachel Stephens, on the 1st day of April, 1884, in her room, ward seven, Asylum for the Insane, Toronto, County of York, came to her death from blows struck on her head by one Valeria McKinley with a bucket, which was in said room. The said Valeria McKinley, not being of sound mind, did, by the means aforesaid, cause the death of the said Rachel Stephens, but not feloniously or malice aforethought."

(Signed), J. G. Duncan, M.D.,
Coroner.

"That the said Valeria McKinley, not being of sound mind, did, on the 2nd day of April, 1884, in her room, at the Provincial Asylum for the Insane, Toronto, County of York, come to her death from congestion of the brain ; and we further find that the officials of the Asylum paid to Valeria McKenzie all possible attention, and have done all in their power to place matters fairly before the jury."

(Signed) J. G. Duncan, M.D.,
Coroner.

The following letter was sent to me unsolicited by Rachel Stephens' nearest relative :

Toronto, April 3rd, 1884.

Dr. Clark,

Superintendent Toronto Lunatic Asylum :

Dear Sir,—After the last sad rites have been performed on the late Mrs. Rachel Stephens, I take this opportunity of sending you my most sincere thanks for all your kindness to her since you have been in charge of the institution. Although her end was so sudden and happened in such a manner, I know that you did everything that could be done to make her comfortable, and was not in any way to blame for her being so suddenly called away, as it was one of those accidents in life over which we have no control. Kindly convey to Dr. Buchan my thanks for his attentions to deceased and to us during our trouble.

I am, dear Sir, yours respectfully,

(Signed), Joseph Stephens.

In reflecting on the whole matter in relation to these sad events, I cannot lay blame to any person. It was one of those unexpected events which, being unforseen, was unprovided for, and therefore one of those contingencies to which Asylums must always be liable where morbid minds act upon impulses. It is fair to ourselves to say that at this time the Asylum was overcrowded. On this account it was necessary to turn single rooms into associated dormitories. Our refractory ward is badly constructed for the class of patients it contains ; it has five associated dormitories, containing from six to sixteen beds in each. That is to say, our worst and most dangerous patients must sleep together in that proportion. This ward contains sixty-two beds, and has only nine single rooms in it. At the time of the homicide five of these had two patients in each. To state these facts is all that is needed to show that the wonder is such sad events have not been more common, and not that they occur under the strictest supervision. While this faulty structural arrangement exists, there is no guarantee of exemption in the future from a repetition of such a tragedy. With this supposition constantly among the possibilities, the anxieties of a responsible head are not to be envied.

Fines.

Where so many are employed, it is to be expected that minor neglect of duty will occasionally exist. Such may not be of a sufficiently serious nature as to justly warrant dismissal. To check these defaults small fines are imposed, which are applied to the library fund. This appeal to the pocket has had a good effect on those punished in this way.

Work.

Last year our average population was 703. Out of this number 214 were regular workers; this made an average of nearly 30½ per cent. Private patients do little work for the Asylum, so it is only fair to deduct 274 of this class, making a ratio of about 45½ per cent. of our free patients who were engaged in manual labour of one kind or another. At the beginning of 1884 we did the most of our indoor work in the wards, and have done so ever since. It is found that the presence of working patients among those who formerly performed no work, had an imitative and stimulating effect upon the latter class. The result has been very satisfactory, and shows that 456 patients have been thus employed during the current year, making 90 per cent. of the free patients, or more than double of the number in the previous year.

Wants.

20,000 feet of hardwood flooring (face measure) to renew the old flooring, some of which has been in use over 25 years.

Carpeting and lineoleum for superior wards. Much of that now in use is in rags, having seen service for over seven years.

10,000 feet of planking to repair sidewalks in the grounds.

One steam mangle for fine work in laundry. Cost, $250.

Material for a conservatory; the old shanty now called one is tumbling down. The material would cost about $250, and the work of erection could be done by our own mechanics.

100 bedsteads to replace those in use. We are now in possession of many which have been in our bedrooms over 30 years. They can now be classed among the fashionable antique, and strike visitors from abroad as veritable curiosities.

A decent chapel is among our necessities. Sewing room, concert room, ball room and church room are all one, and a "cribbed and cabined" place at that. It is situated on the fourth story where the sickly, infirm and aged, cannot climb. This paragraph of wants has been regularly inserted for many years, until it now looks like vain repetition. We live on hope in this matter, and indulge in speculations as to the probabilities of the future.

A new piano is needed for our concert room. The city church choirs very generously come up every winter to give us concerts and entertainments, and it is very irritating to musicians to play for or sing to our patients with a discordant instrument.

Probation.

Sixteen were sent home on probation. All remained at home and recovered except one who was returned in three weeks after the permit was granted. This is not as large a number as usual, but the class fit to go home with friends was not as numerous as we commonly have among our admissions. We endeavour to discriminate between those to whom the change may prove a benefit, and those to whom it might be prejudical.

Farm.

In farming the 100 acres of arable land we still occupy, we find it most profitable to cultivate root crops. Our labour is sufficient, and the value per acre is much greater than would be that of a crop of hay or grain. At Toronto market prices our crop of this year is worth $15,053.36. About five and a half miles from our gate is situated the Mimico Farm.

It contains about 320 acres of arable land. There is a house and barn on the property. It is fairly well fenced and watered. Were it put in our own care, we could profitably work it in addition to our land nearer the Asylum. It would produce all the hay and grain we needed, and give pasture to our cows in summer, which are now housed all the year around as milch cows. A family could occupy the house and all the farm work could be done by patients to our gain and their benefit. It would annually mean a handsome revenue to us, and so far save our maintenance fund by at least $5,000 annually. It is little or no use to the Government at present, so this proposition is worthy of consideration.

Amusements.

We endeavour to give as much recreation as is possible to our patients. It relieves the monotony of ward life not only to the insane, but also to the attendants. Croquet, cricket, an occasional picnic in the grounds with music, weekly dances during the winter months, sleigh rides in winter, a visit of a few to the circus, and over one hundred to the Industrial Exhibition with instrumental music, billiards, bagatelle, cards, checkers, chess, newspapers and library books, make a variety of amusements which cannot be over-estimated as agents to facilitate recovery.

The city church choirs have our best thanks for their yearly concerts. They come ungrudgingly to assist us, and were they to hear the grateful remarks of many of their audience they would feel amply repaid for their trouble.

1. Concert by the Choir of Bond Street Congregational Church; Mr. John Impey, conductor.
2. Concert by choir of Holy Trinity Church; Mr. A. R. Blackburn, conductor.
3. Concert by Madam Stuttaford and pupils.
4. Concert by St. Paul's Methodist Church; Mr. Thos. H. Roffe, conductor.
5. Concert by Mr. James Livingston and friends.
6. Concert by choir of Berkeley St. Methodist Church; Mr. J. M. Faircloth, conductor.
7. Concert by choir of Christ Church, Reformed Episcopal; Mr. Geo. H. Mitchell, conductor.
8. Concert by Madam and Mons. Stuttaford and pupils.
9. Concert by Knox College Glee Club; Mr. R. C. Tibbs, conductor.
10. Concert by choir of Erskine Church; Mr. J. Bayley, conductor.
11. Concert by choir of Holy Trinity Church; Mr. A. R. Blackburn, conductor.
12. Concert by choir of Queen St. Methodist Church; Mr. J. B. Baxter, conductor.
13. Concert by choir of Northern Congregational Church; Mr. Geo. W. King, conductor.
14. Concert by choir of Grace Church; Mr. R. G. Stapells, conductor.
15. Concert by choir of St. Mary's Church R. C. Church; kindness of Very Rev. V.G. Rooney, pastor.
16. Concert by choir of Richmond St. Methodist Church; kindness of Rev. T. Cullen, pastor.
17. Concert by choir of Christ Church, Reformed Episcopal; Mr. Geo. H. Mitchell, onductor.
18. Concert by the choir of the Metropolitan Church; Mr. F. H. Torrington, conductor.
19. Concert by choir of Jarvis St. Baptist Church; Mr. Wm. Horatio Clark, conductor.
20. Concert by the Messrs. White, of Paris, Ont.

History of Cases.

Several years ago it was recommended by me that additional information was necessary concerning patients admitted into the Asylum. The statutory form was good enough as far as it went, but it did not cover sufficient ground to enable medical officers to judge of the proper classification of patients on admission. It is often extremely difficult to procure from friends all the facts in connection with the habits, propensities, treatment, duration of attacks, and hereditary tendencies of patients. Such details are painful retrospects to relatives. Some of them are often never divulged, yet the knowledge of

their existence is of paramount importance in medical treatment. Such being the case, it should be made compulsory to have the history made out by a physician. The following additions are suggested, viz. :—

1. Habits in regard to ardent spirits, opium, tobacco, or any other drug.
2. Addition to question No. 14, "hallucinations or illusions."
3. Natural eccentricities of temper, thought and action.
4. Addition to No. 15, "or subject to convulsions, fits, or spasms of any kind."
5. Was the invasion sudden or gradual?
6. Has any relative been idiotic, feeble-minded, eccentric, epileptic or paralytic? if so, state name and relation.
7. Addition to No. 18, "if so, state in what way."
8. Has any restraint or confinement been used? if so, state what kind and for how long.
9. Any disease or bodily injury heretofore? if so, state their nature.
10. Is the patient cleanly in person and habits?
11. Addition to question No. 21, "and what length of time on each occasion, and if discharged, recovered, improved or not."

N.B.—The history must be filled out by a legally qualified medical practitioner. If the answers to questions are not sufficiently explicit to satisfy the Medical Superintendent, a vacancy may not be awarded.

FORM OF HISTORY OF A PATIENT,

Recommended for Admission into the Asylum for the Insane at Toronto.

To be Filled up by the Physician Recommending the Admission. Idiots and Paralytics are not Admissable.

1. Name in full.
2. Age.
3. Sex.
4. Married, single, or widowed.
5. Number of children, if any.
6. Occupation.
7. Where born.
8. Present residence and county.
9. Religious persuasion.
10. Habits of life.
11. Whether first attack.
12. Number of previous attacks, and their duration.
13. Duration of present attack.
14. Propensities, delusions, etc.
15. Is the patient epileptic, or has epilepsy ever been known in any relative?
16. Supposed exciting cause.
17. Has any relative ever been insane; if so, state name and relation.
18. Has the patient ever attempted to injure self or others?
19. Has any change in articulation of speech been noticed?
20. What degree of education?

Restraint.

Our record in this respect is that of several years past. We have had no need of camisoles, muffs, mitts or covered beds, so they have not been employed, except that in one surgical case it was found necessary to use a muff for a few days. In our male refractory ward there has been no restraint for over eight years. We needed no incentive to reduce our restraint to a minimum, either from egotistic novices or from those to whom public notoriety is all important. The aim of the merciful Asylum officer is to use all the mild means at his disposal for the relief of the afflicted under his care, and, if in the furtherance of this object, his prudence and discretion pointed out that some mild form of personal restraint is necessary, the clamour of any mere hobbyist should not control his judgment. In the want of restraint much depends on the kind of patients and the form of insanity we have to deal with, but more is to be considered in the proportion of nurses to the number of patients, the construction of the Asylum as to single rooms, associated dormitories, the size of the wards and the number of sitting rooms. On account of these, what would be dangerous freedom in one Asylum might be comparative security in another.

Changes in Staff.

On November 20th, 1883, Dr. S. Lett, Assistant Superintendent, tendered his resignation to the Government to become Supintendent of "The Homewood Retreat," Guelph. He was the oldest Asylum officer in the service, although comparatively young in years, and during that time rendered faithful duty to the Province. He was conscientious, thorough and active in the discharge of his work.

On November 29th, Dr. Buchan, of Toronto, was appointed to fill his place. He entered on his duties on December 3rd, 1883.

In the beginning of this year, Miss M. A. Parkes Matron, and Miss E. Parkes, Assistant Matron, resigned their respective positions. The matron had been over a quarter of a century in the Asylum service, and had discharged her arduous duties faithfully and well during those many years. The same can be said of the Assistant Matron, although not so long in her position as the Matron. The position is one which above all others needs tact, firmness and good judgment to be successfully filled.

Miss J. M. Christie entered upon her duties as Matron on the 14th day of March, 1884, and Miss M. A. Bastedo, as Assistant Matron, on March 1st, 1884.

On June 8th Mr. Jas. Hare, our head farmer, died of pleuro-pneumonia, after only a few days' illness and while in the prime of life. He had proved himself a faithful and efficient servant, and had been over fourteen years in the Asylum employment.

On June the 16th Mr. William Boulton was appointed farmer in the position once occupied by the deceased.

My thanks are due to the officers and employees for their hearty co-operation with me in a work which is always arduous and responsible.

I have the honour to be, Sir,

Your obedient servant,

DANIEL CLARK,

Medical Superintendent.

ANNUAL STATISTICAL REPORT

Of the operations of the Asylum for Insane, Toronto, for the year ending 30th September, 1884.

TABLE NO. 1.

Shewing movements of patients in the Asylum for the official year ending 30th September, 1884.

——	Male.	Female.	Total.	Male.	Female.	Total.
Remaining, October 1st, 1883				358	345	703
Admitted during year :--						
By Lieutenant-Governor's Warrant	22	21	43			
" Medical Certificate	40	60	100			
				62	81	143
Total number under treatment during year				420	426	846
Discharges during year :—						
As recovered	20	29	49			
" improved	4	8	12			
" unimproved	6	3	9			
Total number of discharges during year	30	40	70			
Died	27	25	52			
Eloped						
Transferred to Kingston Asylum	11	10	21			
				68	75	143
Remaining in Asylum, 30th Sept., 1884				352	351	703
Total number admitted since opening of Asylum				3061	2760	5821
" discharged	1617	1470	3087			
" died	747	626	1373			
" eloped	51	11	62			
" transferred	294	302	596			
				2709	2409	5118
" remaining, 30th Sept., 1884				352	351	703
No. of applications on file 30th Sept., 1884	3	6	9			

TABLE NO. 2.

Shewing the maximum and minimum number of patients resident in the Asylum the total number of days' stay of patients, and the daily average number of patients in the Asylum, from the 1st October, 1883, to 30th September, 1884.

	Male.	Female.	Total.
Maximum number of patients in residence (on 21st of August)	359	356	715
Minimum " " " (on the 21st of April)	350	334	684
Collective days' stay of all patients in residence during year	130303	126401	256704
Daily average population	358.77	348.23	707

	Admissions of Year.			Total Admissions since Opening.		
	Male.	Female.	Total.	Male.	Female.	Total.
Social State.						
Married	30	49	79	1370	1749	3119
Widowed						
Single	32	32	64	1691	1011	2702
Not reported						
Total	62	81	143	3061	2760	5821
Religion.						
Presbyterians	9	19	28	677	638	1315
Episcopalians	19	19	38	899	794	1693
Methodists	13	24	37	518	480	998
Baptists	1	4	5	45	39	84
Congregationalists	1	2	3	25	38	63
Roman Catholics	13	11	24	655	573	1228
Mennonites						
Quakers						
Infidels						
Other denominations	2	2	4	185	168	353
Not reported	4		4	67	30	87
Total	62	81	143	3061	2760	5821
Nationalities.						
English	14	13	27	526	442	968
Irish	7	10	17	912	857	1769
Scotch	5	2	7	390	361	751
Canadian	34	47	81	1014	917	1931
United States	1	5	6	107	99	206
Other Countries	1	3	4	99	75	174
Unknown		1	1	13	9	22
Total	62	81	143	3061	2760	5821

TABLE No. 3.

Shewing the Counties from which patients have been admitted up to 30th September, 1884.

COUNTIES.	Admitted During Year.			Total Admissions.		
	Male.	Female.	Total.	Male.	Female.	Total.
Algoma District	1	1	2	8	3	11
Brant	.....	1	1	43	43	86
Bruce	.....	1	1	19	8	27
Carleton	.....	.....	.....	60	47	107
Central Prison	2	.....	2	14	.....	14
Dufferin	1	.....	1	1	.....	1
Elgin	.....	.....	.....	26	21	47
Essex	.....	.....	.....	17	12	29
Frontenac	.....	.....	.....	95	64	159
Grey	5	1	6	73	56	129
Haldimand	.....	.....	.....	25	22	47
Halton	1	1	2	72	57	129
Hastings	.....	1	1	62	53	115
Huron	.....	2	2	49	47	96
Kent	.....	.....	.....	21	20	41
Lambton	.....	.....	.....	25	21	46
Lanark	.....	.....	.....	49	39	88
Leeds and Grenville	.....	1	1	55	46	101
Lennox and Addington	2	1	3	23	14	37
Lincoln	.....	.....	.....	92	80	172
Middlesex	.....	1	1	70	67	137
Manitoba and Northwest Territory	2	2	4	5	4	9
Muskoka District	.....	.....	.....	3	3	6
Mercer Reformatory	.....	2	2	.....	2	2
Norfolk	.....	.....	14	15	17	32
Northumberland and Durham	4	10	.....	215	195	410
Ontario	2	2	4	108	102	210
Oxford	1	3	4	29	33	62
Peel	2	2	4	102	89	191
Perth	.....	.....	.....	41	38	79
Peterborough	3	.....	3	65	57	122
Prescott and Russell	.....	.....	.....	13	17	30
Prince Edward	1	.....	1	26	24	50
Renfrew	.....	.....	.....	4	6	10
Simcoe	3	3	6	108	109	217
Stormont, Dundas and Glengarry	.....	.....	.....	58	56	114
Toronto, City of	21	34	55	533	628	1161
Victoria	1	.....	1	37	34	71
Waterloo	.....	3	3	40	43	83
Welland	.....	.....	.....	42	40	82
Wellington	3	2	5	121	128	249
Wentworth	2	.....	2	217	191	408
York	4	7	11	321	207	528
Not Classed	1	.....	1	59	17	76
Total admissions	62	81	143	3061	2760	5821

TABLE No. 4.

Shewing the Counties from which warranted cases have been admitted up to 30th September, 1884.

COUNTIES.	Admitted During Year.			Total Admissions.		
	Male.	Female.	Total.	Male.	Female.	Total.
Algoma District	.....	1	1	5	1	6
Brant	.....	.....	.....	2	2	4
Bruce	.....	.....	.....	4	.....	4
Carleton	.....	.....	.....	11	1	12
Central Prison	2	.....	2	14	.....	14
Dufferin	1	.....	1	1	.....	1
Elgin	.....	.....	.....	.....	.....	.....
Essex	.....	.....	.....	.....	.....	.....
Frontenac	.....	.....	.....	4	2	6
Grey	2	1	3	31	7	38
Haldimand	.....	.....	.....	5	1	6
Halton	.....	.....	.....	4	.....	4
Hastings	.....	1	1	16	13	29
Huron	.....	.....	.....	3	.....	3
Kent	.....	.....	.....	2	.....	2
Lambton	.....	.....	.....	1	1	2
Lanark	.....	.....	.....	7	2	9
Leeds and Grenville	.....	.....	.....	6	2	8
Lennox and Addington	.....	.....	.....	11	.....	11
Lincoln	.....	.....	.....	11	9	20
Middlesex	.....	.....	.....	1	1	2
Mercer Reformatory	.....	2	2	.....	2	2
Muskoka District	.....	.....	.....	.....	.....	.....
Norfolk	.....	.....	.....	1	1	2
Northumberland and Durham	.....	2	2	33	12	45
Ontario	.....	.....	.....	28	9	37
Oxford	.....	.....	.....	1	4	5
Peel	.....	.....	.....	18	3	21
Perth	.....	.....	.....	7	.....	7
Peterborough	2	.....	2	20	5	25
Prescott and Russell	.....	.....	.....	5	2	7
Prince Edward	.....	.....	.....	3	.....	3
Renfrew	.....	.....	.....	4	1	5
Simcoe	.....	.....	.....	24	12	36
Stormont, Dundas and Glengarry	.....	.....	.....	9	2	11
Toronto, City of	11	14	25	106	70	176
Victoria	1	.....	1	25	9	34
Waterloo	.....	.....	.....	8	4	12
Welland	.....	.....	.....	6	3	9
Wellington	.....	.....	.....	12	3	15
Wentworth	1	.....	1	36	8	44
York	2	.....	2	45	10	55
Not Classed	.....	.....	.....	.....	.....	.....
Total admissions	22	21	43	530	202	732

TABLE No. 5.

Shewing the length of Residence in the Asylum of those discharged during the year.

No.	Initials.	Sex.	When Admitted.	When Discharged.	Remarks.
5653	J. H.....	M	July 13th, 1883....	October 5th, 1883....	Recovered
5676	M. A. F...	F.....	September 22nd, " ..	" 13th, "	"
5508	E. R	F.....	" 18th, 1882....	November 7th, "	"
5453	B. McC ...	F.....	May 17th, "	" 10th, "	Improved.
5690	A. B.....	F.....	November 8th, 1883....	" 27th, "	Recovered.
5451	W. R.....	M	May 6th, 1882....	December 1st, "	"
4957	B. M.....	F.....	December 17th, 1877....	" 7th, "	"
5658	E. R.....	F.....	July 25th, 1883....	" 7th, "	"
5609	E. H.....	F.....	April 1st, "	" 13th, "	"
5671	E. L. B...	F.....	September 7th, "	" 21st, "	"
5501	M. A. A..	F.....	" 7th, 1882....	" 28th, "	Improved.
5526	R. D.....	M	October 23rd, "	" 28th, "	Recovered.
5438	M. A.....	F.....	April 19th, "	" 29th, "	Improved.
5646	A. L.....	M	June 26th, 1883....	" 31st, "	Recovered.
5694	J. L. McA.	M	November 17th, "	January 3rd, 1884....	"
5636	M. E. H...	F.....	June 8th, "	" 3rd, "	"
5665	J. B.....	M	August 23rd, "	" 3rd, "	"
5681	T. C.....	M	October 5th, "	" 5th, "	"
5686	M. J. G...	F.....	" 26th. "	" 8th, "	"
5582	A. S.....	F.....	January 26th, "	" 11th, "	"
5074	J. E. C....	M	July 16th, 1878....	" 11th, "	Improved.
5657	M. L.....	F.....	" 28th, 1883....	" 17th, "	Recovered.
5127	A. H.....	M	October 22nd, 1878....	February 4th, "	Improved.
5625	M. E. S...	F.....	May 12th, 1883....	" 1st, "	Recovered.
5716	H. W.....	M	January 24th, 1884....	" 7th, "	Unimproved.
5683	H. H. D ..	M	October 17th, 1883....	" 13th, "	"
5634	M. McM ..	F.....	May 30th, "	" 22nd, "	Recovered.
5723	A. S.....	F.....	February 8th, 1884....	" 26th, "	Improved.
5659	T. B.....	M	July 29th, 1883....	" 28th, "	Recovered.
5703	C. M.....	M	December 21st, " ..	March 2nd, "	"
5696	A. A.....	F.....	November 21st, "	" 8th, "	Unimproved.
5491	J. H.....	M	August 23rd, 1882....	" 18th, "	Improved.
5729	M. D.....	F.....	February 26th, 1884....	" 21st, "	Recovered.
5232	J. W. C...	M	November 7th, 1879....	April 4th, "	Unimproved.
5661	A. L.....	F.....	August 2nd, 1883....	" 18th, "	Recovered.
5699	T. C.....	M	December 4th, "	" 19th, "	"
5702	S. G.....	F.....	" 17th, "	" 25th, "	"
5439	W. K.....	M	April 21st, 1882....	" 28th, "	Improved.
5735	J. M S....	F.....	March 25th, 1884....	May 3rd, "	Recovered.
5767	B. R.....	F.....	May 26th, "	June 2nd, "	Unimproved.
5719	J. L.....	M	January 29th, "	" 7th, "	Recovered.
5701	A. D. R...	F.....	December 13th, "	" 9th, "	Unimproved.
5726	B. J. S....	M	February 16th, "	" 19th, "	Recovered.
5717	G. C.....	F.....	January 29th, "	" 20th, "	"
5762	E. E. H...	F.....	May 14th, 1884....	" 21st, "	"
5770	J. K.....	F.....	" 31st, "	" 30th, "	"
5724	W. E.....	M	February 9th, "	July 1st, "	"
5389	M. A. K...	F.....	September 23rd, 1881....	" 5th, "	Improved.
5718	T. B.....	M	January 29th, 1884....	" 26th, "	Recovered.
5772	P. R.....	M	June 7th, "	" 26th, "	"
5469	M. A. C...	F.....	July 11th, 1882....	" 26th, "	Improved.
5760	E. G. T...	F.....	May 10th, 1884....	August 6th, "	Recovered.
5682	F. D. J...	M	October 10th, 1883....	" 14th, "	Unimproved.
5780	H. K.....	F.....	June 20th, 1884....	" 22nd, "	Recovered.

TABLE No. 5.—*Continued.*

Shewing the length of Residence in the Asylum of those discharged during the year.

No.	Initials.	Sex.	When Admitted.	When Discharged.	Remarks.
5752	I. J. W...	F. ...	April 21st, 1884....	August 22nd, 1884....	Recovered.
5734	C. E. L...	F.....	March 21st, "	" 26th, "	"
5764	J. A. McC.	M	May 17th, "	" 31st, "	"
5688	M. J. G...	F.....	November 3rd, 1883....	September 1st, "	Improved.
5757	A. S. E....	F.....	April 29th, 1884....	" 2nd, "	Recovered.
5569	D. M.....	M	January 12th, 1883....	" 4th, "	"
5787	W. B. N..	M	July 2nd, 1884....	" 15th, "	"
5599	S. C. McD.	F.....	February 28th, 1883....	" 21st, "	"
5789	J. B.....	F.....	July 15th, 1884....	" 25th, "	Improved.
5769	W. S. D...	M	May 31st, "	" 25th, "	Recovered.
5678	A. L.....	F.....	September 27th, 1883....	" 26th, "	"
5784	P. W.....	M	June 27th, 1884....	" 27th, "	Unimproved.
5768	E. B.....	F.....	May 27th, "	" 27th, "	Recovered.
5622	R. E. B...	F.....	" 2nd, 1883....	" 30th, "	"
5779	J. H.....	M	June 18th, 1884....	" 30th, "	"
5677	L. A. W..	M	September 25th, 1883....	" 30th, "	Unimproved.

TABLE NO. 6.

Shewing age, length of residence, and proximate cause of death of those who died during the year ending 30th September, 1884.

Reg. No.	Initals.	Sex.	Age.	Date of Death.	Residence in Asylum.			Proximate cause of death.
					Years	Months.	Days.	
4589	J. A	M ...	39	October 1, 1883.	7	3	23	Convulsions.
5656	S. P.....	M ...	21	" 10, "	0	2	16	Phthisis.
4147	S. S.....	M ...	40	" 18, "	9	9	12	Epilepsy.
2052	A. R.....	M ...	81	November 22, "	25	7	10	Senile Decay.
5689	J. B	M ...	37	" 23, "	0	0	18	Marasmus.
4688	C. C.....	F	83	" 23, "	7	1	28	Senile Decay.
4943	E. A. D..	F	29	December, 5, "	6	0	29	Latent Phthisis.
5667	M. A. C..	F	23	" 17, "	0	3	23	Latent Phthisis.
5421	M. C.....	F	74	" 27, "	1	10	23	Senile Decay.
5318	J. L.....	F	64	" 29, "	2	11	26	Marasmus.
5457	M. S	F	54	January 1, 1884.	1	7	5	Anasasea.
1726	E. McC ..	F	68	" 23, "	27	11	24	Diarrhœa.
2891	J. H	M ...	75	February 1, "	20	7	6	Paralysis.
5714	M. G	F	64	" 18, "	0	0	26	Marasmus.
5600	K. V.....	F	35	" 19, "	0	11	15	Epilepsy.
4645	G. W	M ...	72	March 2, "	7	7	2	Epilepsy.
2099	J. G.....	M ...	48	" 5, "	25	4	26	Phthisis.
4875	J. B	M ...	33	" 19, "	6	8	16	Phthisis.
5059	H. G.....	F	51	" 28, "	5	8	29	Cancer of Breast.
5715	M. J	M ...	65	" 30, "	0	2	7	Phthisis.
1829	R. S.....	F	71	April 1, "	27	3	18	Homicide.
5618	V. McK..	F	34	" 2, "	0	11	7	Exh. of Mind.
5577	J. K	M ...	29	" 3, "	1	2	9	Parisis.
5071	F. H. H..	F	26	" 6, "	5	8	24	Phthisis.
5654	S. C.....	F	57	" 8, "	0	8	17	Phthisis.
5305	J. G.....	M ...	79	" 13, "	3	6	5	Old Age.
3931	J. McC ..	M ...	48	" 21, "	11	10	20	Latent Phthisis.
5013	H. J. L ..	M ...	28	" 26, "	6	0	9	Phthisis.
4445	E. W	F	54	May 6, "	8	3	11	Phthisis.
5431	C. T. Y ..	M ...	37	" 11, "	2	1	15	Paresis.
2668	M. A S ..	F	48	" 24, "	22	2	27	Phthisis.
5263	J. N	M ...	29	June 4, "	4	2	4	Apoplexy.
3779	W. W....	M ...	41	" 5, "	13	0	6	Latent Phthisis.
3751	J. N	M ...	58	" 8, "	13	2	27	Purpura.
5773	H. J	M ...	52	" 9, "	0	0	2	Exhaustion.
5774	J. G.....	M ...	27	" 20, "	0	0	11	Epilepsy.
5674	M. G	F	40	" 28, "	0	9	7	Phthisis.
5783	L. M.....	F	53	" 29, "	0	0	5	Cerebral Effusion.
4676	E. B	F'....	29	July 16, "	7	10	5	Phthisis.
4316	J. McL ..	M ...	38	" 28, "	9	4	23	Phthisis.
5458	M. J. G ..	M ...	57	August 6, "	2	2	24	Paresis.
3177	M. J. C ..	F	48	" 19, "	19	0	22	Anasæca.
4002	R. L	M ...	51	" 22, "	11	8	16	Exh. of Mind.
5739	M. A. C..	F	51	September, 1, "	0	4	24	Diabetes.
5510	J. B	M ...	46	" 1, "	0	11	12	Paresis.
5810	C. A	F	49	" 6, "	0	0	4	Cerebral Effusion.
5776	W. F	M ...	44	" 2, "	0	2	27	Paresis.
5199	W. H. P..	M ...	70	" 15, "	5	3	3	Diarrhœa.
5785	A. D. R ..	F	29	" 15, "	0	2	16	Phthisis.
5006	M. M	F	32	" 23, "	6	5	15	Epilepsy.
4913	E. M.....	M ...	79	" 24, "	7	0	25	Diarrhœa.
5497	F. C	F	37	" 25, "	12	0	16	Marasmus.

TABLE No. 7.

Shewing Trades, Callings and Occupations of Patients admitted into the Asylum.

Trades, Callings and Occupations.	During the Year.			During Former Years.			Total.
	Males.	Female.	Total.	Males.	Female.	Tetal.	
Agents				1		1	1
Actors		1	1				1
Book-keepers				20		20	20
Bakers				16		16	16
Butchers	1		1	16		16	17
Blacksmiths	1		1	39		39	40
Brewers				10		10	10
Builders				3		3	3
Barbers				2		2	2
Brickmakers				3		3	3
Bridge-tenders				1		1	1
Brakesmen				1		1	1
Burnisher	1		1				1
Brushmakers				1		1	1
Commercial travellers	1		1	6		6	7
Cabinet-makers				1		1	1
Coopers				15		15	15
Carpenters	2		2	130		130	132
Clerks	3		3	119		119	122
Clergymen				24		24	24
Cooks					6	6	6
Captains of steamboats	1		1				1
Cigar-makers				5		5	5
Custom-house officers				3		3	3
Civil Servants	1		1	1		1	2
Clock Cleaners				1		1	1
Dyers	1		1				1
Domestic servants, all kinds		4	4	5	900	905	909
Dressmakers		1	1		1	1	2
Druggists				12		12	12
Doctors				14		14	14
Engineers				17		17	17
Editors	1		1	2		2	3
Farmers	23		23	845	26	871	894
Fishermen				1		1	1
Gardeners	1		1	4		4	5
Grocers	1		1	4		4	5
Gentlemen				23		23	23
Glove-makers					1	1	1
Gunsmiths				1		1	1
Governess		1	1				1
Hostlers				2		2	2
Hunters				1		1	1
Harness-makers				9		9	9
Housekeepers		2	2		249	249	251
Hack-drivers				2		2	2
Innkeepers				6		6	6
Ironmongers				1		1	1
Jewellers				5		5	5
Janitors				1		1	1
Labourers	13		13	705		705	718
Laundresses					2	2	2
Ladies		6	6		34	34	40
Lawyers				16		16	16
Milliners					22	22	22
Masons				44		44	44

TABLE No. 7.—*Continued.*

Shewing Trades, Callings and Occupations of Patients admitted into the Asylum.

Trades, Callings and Occupations.	During the Year.			During Former Years.			Total.
	Males.	Female.	Total.	Males.	Female.	Total.	
Machinists				15		15	15
Millers				25		25	25
Moulders				16		16	16
Merchants	3		3	80		80	83
Mechanics				25		25	25
Music-teachers					1	1	1
No occupation		11	11	110	267	337	388
Nurses					5	5	5
Not stated		7	7	195	289	484	491
Other occupations	1	1	2	44	14	58	60
Professors of Music				7	3	10	10
Pensioners				1		1	1
Photographers				5		5	5
Prostitutes		1	1				1
Painters	1		1	28		28	29
Printers				22		22	22
Peddlers				16		16	16
Physicians	2		2				2
Railway Foremen				3		3	3
Railway Conductors				1		1	1
Spinsters		4	4		117	117	121
Sailors				24		24	24
Students	1		1	16	2	18	19
Sisters of Charity					1	1	1
Saddlers	1		1				1
Shoemakers	1		1	74		74	75
Seamstressess		3	3		74	74	77
Soldiers				5		5	5
Salesmen				1		1	1
Sail and tent-maker				1		1	1
Shopkeepers				2	1	3	3
School Girl		1	1				1
Teachers		3	3	48	53	101	104
Tinsmiths				11		11	11
Tailors	1		1	67	1	68	69
Teamsters				5	5	5	5
Wood-workers				1		1	1
Weavers				12	2	13	14
Wheelwrights				1	1		1
Wives		35	35		607	607	642
Unknown or other employments					1	1	1
Total	62	81	143	2999	2679	5678	5821

TABLE No. 8.

Shewing causes of Insanity.

CAUSES OF INSANITY. In respect of the admissions for the year ending 30th September, 1884.	Number of instances in which each cause was assigned.					
	As predisposing cause.			As exciting cause.		
	Male.	Female.	Total.	Male.	Female.	Total.
Moral.						
Domestic troubles, including loss of relatives or friends				1	4	5
Religious excitement					2	2
Adverse circumstances, including business troubles	4		4	1		1
Love affairs, including seduction					1	1
Mental anxiety, "worry"	1		1	1	12	13
Fright and nervous shocks						
Physical.						
Intemperance in drink	1	3	4	4	5	9
" sexual	1		1	1		1
Venereal disease	1		1	1		1
Self-abuse, sexual	3		3	9	1	10
Over-work				1	4	5
Sunstroke					1	1
Accident or injury				1	1	2
Pregnancy						
Puerperal					4	4
Lactation						
Puberty and change of life					4	4
Uterine disorders		1	1		1	1
Brain disease, with general paralysis						
" " epilepsy	4	2	6	4	2	6
Other forms of brain disease						
Other bodily diseases or disorders, including old age				4	4	8
Fevers					1	1
Hereditary.						
With other ascertained cause in combination	15	17	32			
With other combined cause not ascertained	5	8	13			
Congenital.						
With other ascertained cause in combination						
With other combined cause not ascertained	2		2			
Unknown				34	34	68
Total	37	31	68	62	81	143

TABLE No. 9.

Shewing the Probational Discharges and the result thereof.

Reg. No.	Sex.	Initials.	Date of Probational Discharge.	Term of Probation.	Result.
5658	F.....	E. R.....	November 9, 1883	1 Month.	Remained at home.
5683	M.....	H. H. D...	" 17, "	1 "	Returned Dec. 12, 1883.
5671	F.....	E. L. B. ..	" 21, "	1 "	Remained at home.
5526	M.....	R. D.....	" 28, "	1 "	" "
5536	F.....	M. E. H...	December 3, "	1 "	" "
5582	F.....	A. S	" 12, "	1 "	" "
5661	M.....	T. C.....	" 21, "	1 "	" "
5665	M.....	J. B.....	January 2, 1884	1 "	" "
5703	M.....	C. M.....	February 2, "	1 "	" "
5491	M.....	J. H.....	March 18, "	1 "	" "
5439	M.....	W. K.....	April 20, "	1 "	" "
5734	F.....	C. E. L....	July 26, "	1 "	" "
5569	M.....	D. M.....	" 29, "	1 "	" "
5757	F.....	A. S. E. ..	August 2, "	1 "	" "
5769	M.....	W S. D...	" 25, "	1 "	" "
5730	F.....	S. B..	September 1, "	1 "	" "

SUMMARY OF PROBATIONAL DISCHARGES.

	Males.	Females	Total.	Males.	Females	Total.
Number to whom probational leave was granted.....	.....	.....	.....	9	7	16
Discharged—recovered.....	6	6	12	.....	.....	.....
" improved.....	2	.....	2	.....	.....	.....
" unimproved	.....	.....	.....	.....	.....	.....
Died before expiration of leave.....	.....	.....	.....	.....	.....	.....
Returned to Asylum.....	1	.....	1	.....	.....	.....
Absent on probation on 30th September, 1884	.....	1	1	.....	.....	.....

TABLE No. 10.

Shewing the nature of Employment and the number of Days' Work performed by Patients during the year.

Nature of Employment.	Number of Patients who Worked.	Days Worked.		
		Males.	Females	Total.
Carpenter's Shop	3	475	.....	475
Tailor's Shop	4	905	.....	905
Shoe Shop	2	158	.....	158
Engineer's Shop	5	1565	.....	1565
Blacksmith's Shop	1	190	.....	190
Mason Work	2	527	.....	527
Repairing Roads	4	648	.....	648
Wood Yard and Coal Shed	12	2504	.....	2504
Bakery	3	750	.....	750
Laundry	13	1248	1642	1890
Dairy	7	939	365	1304
Butcher's Shop and Slaughter House	4	1252	.....	1252
Piggery	2	730	.....	730
Painting	3	900	.....	900
Farm	26	8138	.....	8138
Garden Grounds	30	3502	.....	3502
Stable	4	1460	.....	1460
Kitchen	17	1570	1862	3432
Dining Rooms	54	5840	5678	11518
Officers' Quarters	4	730	730	1460
Sewing Rooms	30	.....	5756	5756
Knitting	20	.....	5069	5069
Spinning	1	.....	261	261
Mending	56	1878	7695	9573
Wards	100	10950	10900	21850
Halls	31	2190	2080	2270
Storeroom	3	626	313	939
General	15	2555	2604	5159
Total	456	52230	44955	96185

Average population 707
Aggregate " 846

TABLE No. 11.

Shewing articles made in Sewing Room during the year ending 30th Sept., 1884:

Articles.	Number.	Articles.	Number.
Chemises	468	Stockings, pairs	90
Nightgowns	104	Aprons	153
Shirts	639	Jackets	14
Petticoats	360	Drawers, pairs	6
Dresses	328	Cotton waists	2
Pillow cases	1052	Window blinds	88
Quilts	142	Capes	6
Sheets	508	Potato nets	5
Rugs	15	Laundry nets	11
Roller towels	121	Bolster ticks	6
Dish towels	1204	Table cloths	40
Bedticks	186	Total	6379
Socks, pairs	822		

TABLE No. 12.

Shewing articles made in Tailor and Shoe Shops during the year ending 30th September, 1884.

Articles.	Number.	Articles.	Number.
Tailor Shop.		Shoe Shop.	
Coats—tweed	107	Canvas slippers, pairs	50
" denine	5	Repaired, pairs	30
Trousers—tweed	113		
" denine	20		
Vests—tweed	31		
Caps	25		
Untidy suits—linen	9		
" tweed	1		
Mats	50		
Canvas shoes sewed	51		
Carpets altered	6		
Repairs—trousers	800		
" vests	100		
" coats	600		

TABLE 13.

PERIODS.	Duration of Insanity prior to admission.	Length of residence of those remaining in Asylum on 30th September.	Periods of treatment of those who were discharged cured during the year.	Periods of treatment of those who were discharged improved during the year.	Periods of treatment of those who were discharged unimproved during the year.
Under 1 month	34	11	3	1	2
From 1 to 2 months	12	15	5	.....	.....
" 2 " 3 "	10	6	9	1	2
" 3 " 4 "	21	7	3	.....	1
" 4 " 5 "	7	4	10	.....	.....
" 5 " 6 "	5	20	3	.....	.....
" 6 " 7 "	5	2	2	.....	1
" 7 " 8 "	3	6	1	.....	.....
" 8 " 9 "	2	10	3	.....	.....
" 9 " 10 "	1	3	1	1	.....
" 10 " 11 "	1	6	1	.....	.....
" 11 " 12 "	1	5	3	.....	1
" 12 " 18 "	2	34	3	2	.....
" 18 months to 2 years	5	35	1	2	1
" 2 to 3 years	6	42	.....	3	.....
" 3 " 4 "	3	23	.....	.....	1
" 4 " 5 "	2	27	.....	.....	.....
" 5 " 6 "	6	35	1	2	.....
" 6 " 7 "	4	56	.....	.....	.....
" 7 " 8 "	1	52	.....	.....	.....
" 8 " 9 "	1	64	.....	.....	.....
" 9 " 10 "	3	22	.....	.....	.....
" 10 " 15 "	3	91	.....	.....	.....
" 15 " 20 "	2	44	.....	.....	.....
" 20 years and upwards	3	83	.....	.....	.....
Totals	143	703	49	12	9

TABLE No. 14.

Return of Farm and Garden Produce for Year ending 30th September, 1884, Asylum for Insane, Toronto.

DESCRIPTION.	Quantities.	Rate.	Value.
		$ c.	$ c.
Asparagus	1551 bunches	5	77 55
Artichokes	14 bushel	60	8 40
Apples	280 bbls	1 75	490 00
Beet, blood	400 bushel	40	160 00
Carrots, red	450 do	30	135 00
do white	200 do	25	50 00
Cucumbers	500 do	2	10 00
Cauliflowers	700 heads	6	42 00
Celery	5200 do	5	260 00
Currants	15 bushel	2 00	30 00
Cherries	10 do	1 60	16 00
Cabbage	10000 heads	5	500 00
Citrons	50	8	4 00
Corn, sweet	600 dozen	10	60 00
Cress	100 bunches	5	5 00
Capsicums	3 bushel	1 80	5 40
Grapes	120 lbs	6	7 20
Gooseberries	7 bushel	3 00	21 00
Hay	40 ton	14 00	560 00
Lettuce	2851 bunches	5	142 55
Mangold Wurtzel	188 ton	7 00	1316 00
Oats	1210 bushel	36	435 60
Onions, green	7000 bunches	3	210 00
do ripe	145 bushel	60	87 00
Pease in pod	78 do	50	39 00
Potatoes	4980 do	40	1992 00
Parsley	500 bunches	3	15 00
Parsnips	665 bushel	40	266 00
Radishes	218 bunches	3	6 54
Rhubarb	5800 do	3	174 00
Raspberries	84 boxes	8	6 72
Strawberries	220 do	8	17 60
Squash, pumpkins	250	6	15 00
Salsify	20 bushel	60	12 00
Spinach	30 do	40	12 00
Straw	66 ton	10 00	660 00
Turnips	100 bushel	25	25 00
Tomatoes	200 do	60	180 00
Vegetable Marrow	60	.....	4 80
Flower Seeds	.....	.....	40 00
do Plants and Bulbs	3791	.....	413 22
Fowls, increase	30	.....	9 00
Eggs, from hennery	831 dozen	18	149 58
Milk	17011 gals	24	4082 64
Calves, sold	22	.....	18 00
Colt, increased value	.....	.....	50 00
Hogs sold	14520 lbs	.....	835 32
do killed for consumption	11772 do	.....	824 04
do by farrow, increase	18	.....	54 00
Green feed grasses	182 loads	60	109 20
do western corn	326 do	1 00	320 00
Fodder of western corn	10 ton	9 00	90 00
Total	.....	.....	15053 36

ASYLUM FOR THE INSANE, KINGSTON.

KINGSTON, 1st October, 1884.

To the Inspector of Prisons and Public Charities, Ontario.

SIR,—In accordance with statutory requirement I have the honour to submit herewith the Twenty-ninth Annual Report of this Asylum—the seventh since it became a Provincial institution—for the year ending the 30th September, 1884.

There were in residence on the 1st October, 1883, 230 males and 219 females; total, 449.

Admitted during the year, 74 males, 58 females; total, 132.

Total number under treatment, 304 males, 277 females; total, 581.

Discharged during the year, 31 males, 22 females; total, 53.

Died, 17 males, 8 females; total, 25.

Eloped, 3 males.

Remaining in residence 30th September, 1884, 253 males, 247 females; total, 500.

Collective days stay of all patients in residence during the year: males, 87,338, females, 84,883; total, 172,221.

Average daily population, 238,65 males, 231,92 females; total, 470,57.

Average weekly cost per capita, $2.49.

Admissions, Discharges, Deaths, etc.

Owing to the opening of the new cottage and the consequent increase in accommodation, the admissions were unusually large, and included a large proportion of incurable cases. Among the admissions were twenty chronic patients transferred from Toronto Asylum to relieve the overcrowded condition of that institution. Excluding the patients transferred from Asylum for Insane, Toronto, ninety-four of the patients admitted were received for the first time, fourteen for the second time, three for the third and one for the fifth. Only one person was admitted twice within the year.

The number of discharges was quite up to the average of other years, and equalled 40.15 per cent. of the admissions for the year, or, excluding transfers, 47.32 per cent., and 9.16 per cent. of the whole number under treatment.

Two of those discharged during the year were not insane while here. One, I have reason to believe, was committed to gaol while suffering from *delirium tremens*, but when sent to the Asylum was quite sane and remained so until discharged. The second case was that of a man who was said to be insane because he was jealous of his wife and quarrelled with her. As he was pronounced insane by a judge we kept him for more than four and a half months, and during that time enquired carefully into his history. From members of his family who visited him frequently, we learned that while confined here the patient was no more insane than he had ever been, and that the family broils were not owing entirely to his shortcomings. He was very carefully observed while in the Asylum, and subjected to many searching examinations, but as we failed to discover any evidence of insanity, the patient was discharged.

Deaths.

The death rate this year amounted to 4.16 per cent. of the total number under treatment. Two of the deaths were accidental—one was caused by impaction of food in the bronchi—the other by drowning. *Post mortem* examination in the first case revealed the fact that there was softening of the medulla oblangata, and in addition to his pathological condition, was discovered a spindle called sarcoma over the cerebellum. The tumor weighed nearly four ounces.

The drowning of the other patient is likely to remain one of the most impenetrable mysteries. The man was working at the cattle stables on the 25th April, 1884, but at dinner time was reported missing. Supposing he had eloped, althougth he had always been a contented patient, search was at once made and continued as long as there was hope of finding him, but as no trace was obtained the quest was abandoned. On the 17th

May, 1884, his body was discovered floating in the lake, opposite the Asylum farm. A coroner was notified of the occurrence and an inquest held. After hearing the evidence the jury returned a verdict "accidental drowning." This patient had no suicidal tendencies, and it is supposed must have fallen into the water while washing his hands or while passing along the slippery bank.

Elopements.

There were three successful elopements during the year. All of the elopers were heard from after the month, during which we have power to retake them, had expired. Two were retained at home, and the third was making his way to Quebec, to which Province it is said he belonged.

Case of William Biggs.

Included in the discharges is one case which was of such peculiar nature that though not strictly a discharge, I could not classify it otherwise, as it did not come under any other heading in the tables. The case referred to is that of William Biggs, a man who has the worst record for criminal acts of any one I have ever come in contact with. He has been guilty of attempts at murder, rape, maiming horses, killing small animals, injuring children, mutilating lunatics, and other offences too numerous to mention. Once he was sentenced to death, but the sentence was commuted to imprisonment, and at the end of his term this man, whose criminal acts were so numerous and grave, was released. On his way home from prison he went into the field of a farmer who had served upon the jury and maimed one of his horses in a terrible manner. For this act he was tried, and though there was no doubt of his guilt, he was acquitted on the ground of insanity, and transferred to this Asylum on the 20th September, 1879. If he was insane when he committed this offence he was insane all his life, including the time confined here. Many years of his life have been spent inside of the Prison and Asylum. Whether insane or not an asylum where all classes of the insane, acute, chronic, violent and harmless, are received, is no place for a person whose proclivities are to commit atrocities and shed blood. Despite the most careful surveillance to which he was subjected after his last admission here, he succeeded in wounding almost to death a harmless imbecile, besides committing several minor offences. He always selected harmless lunatics, women, children and animals to operate upon, and as he is very cowardly takes good care not to attack any one possessing sufficient strength to offer resistance. While he remained in the wards he was a constant source of anxiety to us, as we were certain his propensity to do harm would be manifested as soon as an opportunity offered. The very sight of blood worked a transformation in this man.

On the 19th August, 1884, Biggs was allowed to attend a patients' pic-nic in the Asylum grove. Strict instructions had been given to the attendants to keep him constantly in view. He was carefully observed until tea time, when one of his attendants was sent into the kitchen on a message, and although absent but a few minutes, yet when he returned Biggs had disappeared. Searchers were immediately sent out, and traces of the eloper soon obtained and followed up as rapidly as possible.

In about an hour and a half he was recaptured, but in the interval had overtaken and attempted to commit rape on a girl between 13 and 14 years of age. Fortunately her screams brought assistance and his designs were frustrated.

For this act he was handed over to the civil authorities and committed to gaol to await his trial. On the 16th September he was tried in the High Court of Justice for assault and attempt to commit rape, the jury bringing in a verdict of "guilty." The judge *finding it necessary to be lenient* sentenced him to six months at hard labour in the County Gaol. At the expiration of that time he will be set at liberty, and I have not the least doubt of the result—more crime.

In this connection it may not be out of place to remark on another circumstance of which we are the victims. I refer to the transfer of insane criminals from Kingston Penitentiary. This Penitentiary, the largest prison in the Dominion, is situated in close proximity to us, and has within its enclosure a prison asylum in which are confined all prisoners who may have become insane while serving sentence. When the sentence of one

of these insane criminals expires he is transferred to this Asylum, it being the nearest, and *nolens volens* our unfortunate patients are compelled to associate with men of evil propensities and depraved morals. We have now in residence twenty-five patients who were thus transferred from Kingston Penitentiary. Some, it is true, are quiet and harmless, but others are vicious and troublesome. When there exists an asylum for insane criminals in the Province, it seems to me, they, whether their sentences have expired or not, as well as the criminal insane, should be confined therein. Many of the insane retain all of their self respect and much of their sensitiveness, and object to associate with persons who have committed crimes for which they have passed many years within prison walls. In addition to this the influence exerted by these criminals is bad, for although insane many retain the propensity to commit crime and induce patients otherwise harmless. to do mischief.

Outbreak of Typhoid Fever.

During the spring (1884) we experienced an outbreak of typhoid fever. Seventeen patients were prostrated, and one died from the disease. The occurrence of a very troublesome and prostrating form of diarrhœa during the summer and fall of 1883 led us to make a careful search for the cause of the sickness, and the fact was revealed that the water used for drinking and other purposes was impure, owing to a large amount of decomposing vegetable matter held in suspension.

To improve our water supply I recommended the introduction of a large Hyatt filter. After enquiry into the merits of this and other filters, my recommendation was adopted, and an order given for a Hyatt filter of 100 gallons per minute capacity; and although this was in November last, the filter was not ready for operation until May, owing to the neglect and tardiness of a Kingston firm to which the contract for the shell of the filter was given. The result of this delay was sickness and death in the wards.

As before stated, typhoid fever broke out in the early part of the spring and did not disappear from the wards until the filter was in working order. Whether or not the impure water was the sole cause of the fever, it is a significant fact not a single case of typhoid has developed since the water has been filtered.

During the occurrence of the fever epidemic, the Inspector of Asylums, accompanied by a deputation of the Provincial Board of Health and Government Architect, visited the institution and made an investigation into the cause of the disease. The deputation found many unsanitary conditions, especially in drains and water closets, which in many instances were badly constructed, trapped and ventilated. In one place a soil pipe into which four closets discharged, opened directly into an attic which communicated through ventilating flues with eight wards, as well as with the room in which one main water tank is situated. All of the closets discharging into this soil pipe were defective and required reconstructing. Perhaps the most serious defect discovered was one in front of the eastern part of the main building. Here the soil pipe before referred to, discharged into a stone drain which led to a large cess-pit. This pit was eleven feet deep, eleven feet in diameter and covered by a arch of solid masonry. This cess-pit was quarried out of the rock and had no outlet, and as it had been in existence probably for twenty-five years, the soil had accumulated until it reached a point on a level with the drain, which in its turn became filled with sewage. As this drain (an ordinary square stone drain with common mortar joints) was badly constructed, the contents forced their way through the loose joinings and percolated into the surrounding soil—a small stream even finding outlet into the fresh air shaft. There was a vague belief that such a cess-pit existed, but careful enquiry from all persons who were likely to be informed upon the subject elicited no definite information. It was by following the drain to determine definitely where it discharged, that the cess-pit was discovered. For some unexplainable reason accurate plans of the drains, if they ever existed, have never been found since the Asylum was purchased by the Ontario Government. I have been informed that many years ago, a small space in front of the east side of the main building was fenced off and used as an airing court, and that a privy was located in it. It is supposed that the cess-pit was constructed to receive the soil from this privy, and when the airing court was abandoned and the privy removed the mouth was flagged over and so left. As the closets which discharged into the cess-pit were evidently an after consideration and not part of the original construction, it is thought they were connected with the cess-pit to save time and

labour, and as those who knew of the arrangement had forgotten it, or could not be found, the existence of this vile hole was not known to us. When opened it gave forth the most powerful and offensive odor I have ever experienced.

The pit was emptied, cleaned and filled up, and a glazed tile drain constructed from the mouth of the soil pipe which emptied into it, to the main sewer.

Another source of danger was an air supply. The air carried to the ventilating fan came through an underground passage which opened near the wharf. This passage was always damp from the dropping of surface water into it, and the air passing through, was liable to take up impurities. The passage was abandoned and arrangement made for a direct supply of air to the fan, from above ground.

Since the investigation, the Public Works Department have been carrying out the recommendations of the Board of Health. Many of the changes necessitated a large amount of work at considerable expense. Much of the work has already been done and it will be continued until completed.

We have had no cases of serious illness during the past summer, and if we enjoy immunity from fever, diarrhœa, etc., next spring, we will feel satisfied that the causes of the diseases which prevailed to a greater or less extent for many years, have been discovered and that our efforts have not been in vain. We will not feel perfectly certain of our position until next spring has come and gone, as it is during this season of the year we have had most of the outbreaks of typhoid, etc.

Fire at Stables.

On the morning of the 5th March a fire broke out at the stables, resulting in the destruction of an old structure attached to the stable proper. The fire started in the harness room, and was occasioned by the accidental upsetting of a can containing oil which was standing not far from the stove. The building was very old, and, with the exception of one side, was constructed of pine, which was so dry that the flames very soon communicated to the roof and adjoining rooms.

The alarm was quickly sounded, and in a short time two large streams of water were playing on the fire from a hydrant close to the stable yard.

Many willing hands, both employees and outsiders, assisted in preventing the spread of the fire, and in a short time the flames were under control and finally extinguished, but not until the structure had been gutted and the roof destroyed.

In this instance our waterworks system for fire protection did good service, and I believe saved property worth as much as the hydrants costs, for as the burned structure was attached to and communicated with the coach-house, but for the close proximity of the hydrants and the ample supply of water the whole of the stable buildings with much of their contents would have been destroyed.

The estimated value of the property destroyed by the fire was seven hundred and forty-three dollars, which was covered by insurance. More serious by far than the loss was the injury to the farmer, who fought the flames until he was very seriously burned.

The part of the building remaining was so old and dilapidated that it was not considered it worth repairing, and it was decided to pull it down and erect a new one in its place. For this purpose a grant was made during the last session of the Ontario Legislature, and plans have been prepared, but as yet the work of construction has not been begun. Unless operations are commenced at once the building will not be completed before winter sets in, and if it is not completed this winter we will be much crippled for room.

Opening of New Cottage.

To meet the demand for increased accommodation the construction of a Cottage for sixty chronic patients was begun in the summer of 1882, and completed last winter. It was handed over to us about the first of February this year, and the work of cleaning and making ready for its occupancy was at once begun

The Cottage consists of two wings and a centre part. The wings are two, and the centre part three storeys high above the basement. The wings are exclusively used as

dormitories, and in the centre building are located the day room, sitting and dining, and the Supervisor's quarters. The basement is devoted to a kitchen, cellar, storerooms, closets, lavatories, etc. The rooms and halls are wainscotted and ceiled with wood. The halls, etc., are floored with hardwood.

The dormitories are supplied with iron bedsteads of improved design, to which are fitted Dominion wire mattresses. The bedding consists of hair mattresses, feather pillows and blankets, sheets and counterpanes, the whole making an exceedingly comfortable, durable and handsome bed. The day rooms likewise are suitably furnished, and the Cottage throughout supplies more comforts than many of its occupants ever experienced in their own homes. It gives accommodation to thirty-five male and thirty-five female patients of a chronic class, and is in charge of a man and his wife, who, without other assistance than can be obtained from the patients, look after the whole establishment; the cooking, however, is done in the main building.

The doors are never locked during the day, so that the patients are at liberty to go out and in at pleasure. It is a veritable cozy home for them, and they fully appreciate it.

As the Supervisor's room communicates with both the male and female departments, and as the patients are of a quiet class, no night watches are required. Although the Supervisor and his wife get along very well and keep the Cottage in excellent order, yet I think the addition of another female assistant desirable to secure more careful supervision, and prevent any accidents from the association of the sexes.

Restraint, Work, Amusements, etc.

For nearly two years there has not been an instance of mechanical restraint in this Asylum. The result has been so gratifying that such treatment is not likely again to be adopted here. True, we did not, as was done by a confrere in the United States, burn our muffs and wristlets (the restraining appliances formerly used) with religious ceremony, but we relegated them to the lumber-room where they are likely to remain.

The entire disuse of restraint was preceded for some time by a gradual decrease in the number of cases subjected to it. Finally, it was decided to try and to do without the muff altogether. Since then there has been less excitement, fewer injuries, less destruction of property, and much more peaceful wards than formerly. Sedatives are given sparingly. Instead of an increase in the use of chemical restraint, as some suppose there is, following the disuse of mechanical, there has been a falling off. Only an occasional dose is administered, not one patient receiving a sedative draught regularly.

Hand in hand with successful non-restraint must go employment and amusement. It is surprising what results in this direction can be achieved by a little effort and perseverance. During the year prior to abandoning restraint, out of a total of 534 patients under treatment during the year, 194 were employed and performed an aggregate of 56,104 days' work. During the past year, out of a total of 581 patients in residence, 435 were employed, 225 males, 210 females, and an aggregate of 94,001 performed. This result may be discredited, but it is a statement of facts nevertheless. It is quite true the number of days' work done by each patient varied greatly, ranging from a few days to every working day in the year. The greatest number of patients working on any one day was 372 out of a population of 484. In the coming year we expect a better work record than during the past, as I am satisfied that healthy employment, by allaying excitement and adding to the happiness of the patient, conduces to recovery. Unquestionably it is better for patients to work off superfluous muscular energy by some useful employment than by wrestling with a muff. The former exercise produces a keen relish for food and quiet sleep, whilst the latter induces irritability, violence and restlessness during both day and night.

With employment should be combined wholesome amusement. In this particular our best efforts have been put forth for the patients' diversion. The weekly dances were continued throughout the winter, and were enjoyed equally by the dancers and onlookers. Dramatic and minstrel clubs were organized by the officers and employees. To the members of these clubs we are indebted for many enjoyable entertainments. Friends from the city, as heretofore, responded to our invitation, and vied with each other in the excel-

lence and variety of the programme rendered. These entertainments, both musical and dramatic, were thoroughly appreciated, and we are under much obligation to those who so heartily engaged in giving pleasure to the inmates.

The introduction of illuminating gas and the purchase of some new slides and lantern appliances enabled us to give some better magic-lantern exhibitions than heretofore. Not the least enjoyable of our winter amusements were drives in the farm sleighs to the city and country.

In the summer pic-nics, excursions on the water, drives to the city during holiday celebrations there, visits to the Midland Fair, etc., were the chief sources of enjoyment.

As formerly, religious services have been conducted on Sunday mornings by the ministers of the city churches. The Roman Catholic clergy frequently visit the wards, administering religious consolation to those belonging to their church.

Improvements.

The following improvements were made during the year :—

Completion of New Cottage.

As previously stated, the cottage was handed over to us about the 1st February, 1884. During the summer a gang of patients has been at work grading, terracing, and making paths about the cottage grounds. The amount of work done can scarcely be estimated, as a large amount of material for filling in, etc., had to be carted from distant parts of the premises. The work has been well done, and the transformation made in the appearance of the cottage surroundings, when the labour has been completed, will be a very noticeable one. A large amount of excavating, mostly through solid rock, was done to remedy the defects in the drainage system, and to allow of a new water pipe being laid.

To give our patients outdoor amusement, a good sized cricket ground was completed last fall. This afforded employment to a large number of inmates for many weeks, as rubbish and earth had to be carted and wheeled to cover up the rock which cropped up in many places.

Steam Boilers.

Three new steam boilers of an improved description, and a new hot water heater, were placed in our boiler-house last autumn for heating and other purposes.

As it was desirable to place the large water-filter near the steam pump, the pumping house, which was too small, had to be reconstructed and enlarged to make room for the filter.

The heating arrangements of the laundry drying room were overhauled and new heaters put in, as the old pipes had become leaky and unserviceable.

Many alterations were made to the different drains and down pipes leading into them, on account of serious defects in construction and arrangement. Several closets were entirely reconstructed, as they were neither properly ventilated nor trapped.

The floor of ward No. 2 was relaid with black brick, and another ward will soon be similarly improved.

A Mississippi table was made in the carpenter's shop and placed in ward No. 26, and other games were introduced for the amusement of the patients.

A stone addition to the blacksmith's shop was built by Asylum labour, as the old shop was too small to meet all requirements.

The "Work Table" attached shows the amount of ordinary work done and its nature

Requirements.

The chief requirements for the coming year are :—

The reconstruction of the burned portion of the stables.

The addition of another gasometer, etc., as recommended last year.

The renewal of the entire heating arrangements in the vaults, on an improved and more economical system. The existing heating service is worn out, and at best is badly arranged and gives poor results.

Enough hardwood flooring for two wards is badly needed.

The halls of wards Nos. 7 and 8 are urgently in need of plaster. The existing white-washed brick is unsightly and difficult to keep clean.

One hundred iron bedsteads and wire mattrasses are required, to replace the old bug infested ones received from Penetanguishene.

Fifty hair mattrasses and one hundred feather pillows could be placed to good advantage.

The new cottage is without inside fire protection, and either a supply of hose with proper connections, or Babcock extinguishers should be secured at once.

No pictures have yet been purchased for the new cottage. One hundred are required for this place and the wards of the main building, to brighten up the rooms and halls.

The wood-burning oven used in the bakery should be replaced by one which burns coal.

Three new steam kettles are required for the kitchen, and some appliances previously requested for the laundry.

Besides the wants specified above, some ward furniture is required to replace worn out articles.

Thanks.

We are under obligations, and return thanks to the different clergymen who have conducted Sunday service, and administered consolation to the sick at the Asylum during the past year.

To Mr. Gunn, M.P., for the use of his steam yacht for a patients' excursion.

To Hon. C. Clarke, Mr. R. Mathison, and other friends, for donations of pictures.

To the different choirs, musical organizations and dramatic clubs, for enjoyable entertainments.

To Col. Montizambert and the members of "B" Battery band, for music at a patients' picnic.

To the proprietors of the city papers for a liberal supply of exchanges.

To Messrs. Polson & Wade for reading matter.

To the editors of the different weekly newspapers published in this district, who sent us copies of their publications.

Officers and Employees.

Few changes occurred on our staff of officers and employees during the year.

The most important change was that caused by the resignation of Mrs. Aitken, who, for fourteen years, filled the position of Matron. For the greater part of that time she, without assistance, had supervision of the female department and worked assiduously. She was a zealous officer, and well earned the rest she now enjoys. It is needless to say that she left many warm friends at the Asylum. Miss Hardy, who had been Assistant Matron since July, 1880, was promoted to the Matronship when Mrs. Aitken resigned, and Miss Walker, who had filled a similar position in another Asylum, was appointed Assistant Matron. Both of these ladies have performed their duties satisfactorily, and shown earnest zeal in their work.

The attendants and other employees have manifested commendable interest in the performance of their duties, and their efforts have been duly appreciated.

Last year I recommended a scheme for an increase of pay to certain employees, and I regret that it was not adopted. A similar arrangement for an increase of pay has been carried out in the other Ontario Asylums, and I would again press the claims of our attendants for consideration. I do not recommend a promiscuous increase, as some of our attendants are well paid, but I think some inducement should be held out to efficient employees to remain with us. I am satisfied that a recognition of merit by promotion, and increase of pay, would result in a more hearty performance of duty.

I have the honour to be, Sir,

Your obedient servant,

W. G. Metcalf,

Medical Superintendent.

ANNUAL STATISTICAL REPORT

Of the operations of the Asylum for Insane, Kingston, for the year ending 30th September, 1884.

TABLE No 1.

Shewing movements of patients in the Asylum for the official year ending 30th September, 1884.

	Male.	Female.	Total.	Male.	Female.	Total.
Remaining, October 1st, 1883				230	290	449
Admitted during year:—						
By Lieutenant-Governor's warrant	53	32	85			
" Medical certificate	21	26	47			
				74	58	132
Total number under treatment during year				304	277	581
Discharges during year:—						
As recovered (two of these not insane)	19	18	37			
" improved	9	4	13			
" unimproved	3		3			
Total number of discharges during year	31	22	53			
Died	17	8	25			
Eloped	3		3			
Transferred						
				51	30	81
Remaining in Asylum, 30th September, 1884				253	247	500
Total number admitted since opening of Asylum				962	709	1671
" discharged	357	244	601			
" died	266	177	443			
" eloped	14		14			
" transferred	72	41	113			
				709	462	1171
" remaining 30th September, 1884				253	247	500
Number of applications on file 30th Sept., 1884	4	2	6			

TABLE No. 2.

Shewing the maximum and minimum number of patients resident in the Asylum, the total number of days' stay of patients, and the daily average number of patients in the Asylum from 1st October, 1883, to 30th September, 1884.

	Male.	Female.	Total.
Maximum number of patients in residence (on the 3rd of September, 1884)	252	253	505
Minimum " " " (on the 18th of November, 1883)	228	218	446
Collective days' stay of all patients in residence during year	87,338	84,883	172,221
Daily average population	238.65	231.92	470.57

	Admissions of Year.			Total Admissions since Opening.		
	Male.	Female.	Total.	Male.	Female.	Total.
Social State.						
Married } Widowed }	29	37	66	375	384	759
Single	45	21	66	587	325	912
Not reported						
Total	74	58	132	962	709	1,671
Religion.						
Presbyterians	16	15	31	152	115	267
Episcopalians	15	10	25	239	141	380
Methodists	12	6	18	145	116	261
Baptists	1		1	17	15	32
Congregationalists		1	1		1	1
Roman Catholics	28	23	51	308	256	564
Mennonites						
Quakers						
Infidels						
Other denominations	1	2	3	96	59	155
Not reported	1	1	2	5	6	11
Total	74	58	132	962	709	1,671
Nationalities.						
English	15	1	16	93	41	134
Irish	8	13	21	209	176	385
Scotch	2	5	7	48	47	95
Canadian	45	35	80	501	370	871
United States				12	6	18
Other countries	1	2	3	39	12	51
Unknown	3	2	5	60	57	117
Total	74	58	132	962	709	1,671

TABLE No. 3.

Shewing the Counties from which Patients have been admitted up to 30th September, 1884.

COUNTIES.	Admitted during year.			Total admissions.		
	Male.	Female.	Total.	Male.	Female.	Total.
Algoma District				1	1	2
Brant				6	7	13
Bruce				3	4	7
Carleton	11	13	24	88	86	174
Dufferin						
Elgin				2	4	6
Essex				2	2	4
Frontenac	9	6	15	131	111	242
Grey				6	9	15
Haldimand				6	6	12
Halton				1		1
Hastings	3	2	5	40	29	69
Huron				6	5	11
Kent				2		2
Lambton				12	2	14
Lanark	5	2	7	60	53	113
Leeds and Grenville	4	3	7	63	47	110
Lennox and Addington	8	1	9	49	36	85
Lincoln				9	4	13
Middlesex				6	3	9
Muskoka District						
Norfolk				6	5	11
Northumberland and Durham	1	2	3	12	28	40
Ontario	2		2	16	17	33
Oxford				14	3	17
Peel				4	1	5
Perth				9	8	17
Peterborough	2		2	8	5	13
Prescott and Russell	2	2	4	20	15	35
Prince Edward	1	1	2	13	18	31
Renfrew	3	1	4	30	15	45
Simcoe				10	10	20
Stormont, Dundas and Glengarry	7	9	16	69	53	122
Victoria	1	1	2	4	12	16
Waterloo				10	4	14
Welland				6	4	10
Wellington				4	4	8
Wentworth				12	11	23
York	5	5	10	32	44	76
Not classed	10	10	20	190	43	233
Total admissions	74	58	132	962	709	1,671

TABLE No. 4.

Shewing the Counties from which Warranted Cases have been admitted up to 30th September, 1884.

COUNTIES.	Admitted during year.			Total Admissions.		
	Male.	Female.	Total.	Male.	Female.	Total.
Algoma District	.....	.....	.....	1	1	2
Brant	.....	.....	.....	6	7	13
Bruce	.....	.....	.....	3	4	7
Carleton	9	11	20	83	78	161
Dufferin	.....	.....	.....	.....	.....	.....
Elgin	.....	.....	.....	2	4	6
Essex	.....	.....	.....	2	2	4
Frontenac	4	.....	4	96	74	170
Grey	.....	.....	.....	6	9	15
Haldimand	.....	.....	.....	6	6	12
Halton	.....	.....	.....	1	.....	1
Hastings	2	2	4	38	25	63
Huron	.....	.....	.....	6	5	11
Kent	.....	.....	.....	2	.....	2
Lambton	.....	.....	.....	12	2	14
Lanark	5	2	7	57	51	108
Leeds and Grenville	1	1	2	47	35	82
Lennox and Addington	7	.....	7	38	27	65
Lincoln	.....	.....	.....	9	4	13
Middlesex	.....	.....	.....	6	3	9
Muskoka District	.....	.....	.....	.....	.....	.....
Norfolk	.....	.....	.....	6	5	11
Northumberland and Durham	1	2	3	11	26	37
Ontario	2	.....	2	16	17	33
Oxford	.....	.....	.....	14	3	17
Peel	.....	.....	.....	4	1	5
Perth	.....	.....	.....	9	8	17
Peterborough	2	.....	2	8	5	13
Prescott and Russell	2	2	4	19	14	33
Prince Edward	1	.....	1	13	10	23
Renfrew	1	1	2	27	15	42
Simcoe	.....	.....	.....	9	10	19
Stormont, Dundas and Glengarry	6	4	10	65	43	108
Victoria	1	.....	1	4	11	15
Waterloo	.....	.....	.....	10	4	14
Welland	.....	.....	.....	6	4	10
Wellington	.....	.....	.....	4	4	8
Wentworth	.....	.....	.....	12	11	23
York	5	5	10	32	43	75
Not classed	4	2	6	15	4	19
Total admissions	53	32	85	705	575	1,280

TABLE No. 5.

Shewing the length of Residence in the Asylum of those discharged during the year.

No.	Initials.	Sex.	When Admitted.	When Discharged.	Remarks.
1488	G. P	M.. ..	March 10, 1883.....	October 16th, 1883....	Recovered.
1528	E. J. C. ..	F. ...	August 21, 1878.....	" 27th, "	"
1147	P. O'C	M.....	May 15, 1878	" 30th, "	Improved.
1522	M. C.....	F	June 30, 1883.....	" 31st, "	Recovered.
1509	B. K.....	F.....	May 19, 1883	November 6th, "	"
1512	R. B.....	M.....	May 31, 1883.....	" 7th, "	"
479	E. N.....	F	July 17, 1869	" 7th, "	Improved.
1524	W. A. S...	M....	July 10, 1883	" 26th, "	Not insane.
1534	E. R. A ..	F.	August 24, 1883..	December 1st, "	Improved.
1500	A. S	M.....	May 7, 1883.....	" 15th, "	"
1474	B. S. Y ...	M.....	January 8, 1883.....	" 15th, "	Recovered.
1458	M. S. A...	F	November 23, 1882.....	January 10th, 1884....	Improved.
1226	A. M. S...	F	August 14, 1879.....	" 30th, "	Recovered.
1544	J. C. A ...	M.....	October 28, 1883	February 6th, "	"
1560	W. C.....	M.....	January 24, 1884.....	" 11th, "	"
1516	M. A. C...	F	June 5, 1883.....	" 26th, "	"
1489	R. S	M.....	March 10, 1883	March 21st, "	"
1495	R. D.....	M.....	April 5, 1883	" 22nd, "	"
1374	J. P.....	M.....	November 30, 1881.....	" 26th, "	"
1492	J. J.....	M.....	March 24, 1883.....	" 26th, "	"
1166	E. C.....	M.....	August 3, 1878..	April 7th, "	Improved.
1539	J. W.....	M.....	September 29, 1883	" 14th, "	Recovered.
1540	F. L	F.....	October 23, 1883	" 17th, "	"
1481	E. F. T ...	M.....	February 8, 1883.....	" 17th, "	"
1552	E. G.....	M.....	December 29, 1883.....	" 17th, "	"
1574	D. C.....	M. ...	March 11, 1884.....	" 22nd, "	Not insane.
1573	P. McL ...	M.....	March 11, 1884.....	May 6th, "	Recovered.
1571	M. D.....	F	March 11, 1884.....	" 6th, "	"
1554	J. W.....	F	December 29, 1883	" 15th, "	"
1357	J. B	M.....	September 24, 1881.....	" 21st, "	Improved.
1566	C. McK...	F	February 28, 1884.....	June 4th, "	Recovered.
1578	F. C	F	March 14, 1884.....	" 7th, "	"
1490	D. D.....	M.....	March 8. 1883.....	" 9th, "	Unimproved.
1575	J. M.....	M.....	March 11, 1884	" 10th, "	Recovered.
1591	M. V. C ..	F	April 11, 1884	" 14th, "	"
1567	E. McP. I.	F	March 4, 1884.....	" 18th, "	Improved.
1561	E. McI....	M.....	January 28, 1884.....	" 28th, "	"
1527	J. A. McC.	M.....	August 21, 1883.....	July 4th, "	"
1551	F. M.....	M.....	December 11, 1883	" 11th, "	"
1467	C. S.....	M.....	December 28, 1882	" 17th, "	Recovered.
1587	W. C	M.....	April 9, 1884	" 24th, "	"
1632	J. C.....	F	June 16, 1884.....	August 11th, "	"
1493	M. D.....	F	March 30, 1883	" 14th, "	"
1626	J. C	M.....	June 10, 1884.....	" 16th, "	"
1585	A. J. W...	F	March 31, 1884.....	" 24th, "	"
1525	V. F.....	F	July 13, 1883	September 10th, "	"
1529	A. F	F	August 21, 1883.....	" 10th, " ..	"
1654	G. B	M.....	July 19, 1884	" 16th, "	"
1231	W. B.....	M.....	September 29, 1879.....	August 19th, "	Unimproved.
1656	R. S.....	M.....	July 30, 1884	September 18th, "	"
1506	J. S. S	M.....	May 9, 1883.....	" 19th, "	Improved.
1248	E. K	F	November 25, 1879.....	" 22nd, "	Recovered.
1653	M. McG ..	F	July 18, 1884	" 30th, "	"

TABLE No. 6.

Shewing age, length of residence, and proximate cause of death of those who died during the year ending 30th September, 1884.

No.	Initials.	Sex.	Age.	Date of Death.	Residence in Asylum.			Proximate Cause of Death
					Years	Months.	Days.	
1204	A. F.....	M ...	29	November 17, 1833 .	4	7	2	Apoplexy.
1444	J. S.....	M	56	" 17, " ..	1	1	21	Exhaustion Ac. Mania.
595	S. P.....	M	68	January 5, 1884..	13	7	15	Exhaustion Ac. Mania.
1190	J. M.....	F	56	" 11, " ..	4	11	11	Paralysis.
635	M. P.....	M	37	February 3, " ..	13	5	23	Phthisis.
1562	J. B. G ...	M	68	March 6, " ..	.....	.....	18	Senile Decay.
1462	P. N	M	66	" 7, " ..	1	3	8	Senile Decay.
1352	A. A.....	M	40	" 30, " ..	2	6	9	Epilepsy.
1559	T. G	M	60	" 30, " ..	.....	2	7	Exhaustion Ac. Mania.
582	R. S	F	54	April 4, " ..	13	11	9	Phthisis.
1548	J. McD ...	M	49	" 13, " ..	.....	4	17	Enteric Fever.
266	J. McC ...	M	68	" 22, " ..	18	4	6	Senile Decay.
1558	E. J. C....	F	25	" 22, " ..	.....	3	3	Heart Disease.
1615	W. J. P ..	M	72	May 6, " ..	.....	.....	17	Diarrhœa.
1532	M. F.....	F	60	" 18, " ..	.....	8	25	Obstruction of Bowels.
1538	J. W.....	M	38	" 24, " ..	.....	7	25	Bronchitis.
1568	S. S	F	65	" 27, " ..	.....	2	22	Senile Decay.
628	J. Q	M	48	April 25, " ..	13	8	26	Drowned.
1586	J. B. McL.	M	42	June 10, " ..	.....	2	1	General Paresis.
1408	C. M.....	M	36	" 13, " ..	2	1	23	General Paresis.
1363	S. McM ..	F	25	" 25, " ..	2	8	5	Phthisis.
356	I. A.....	M	46	July 31, " ..	15	9	12	Food in Trachea.
978	D. McD ..	M	37	August 29, " ..	7	10	5	Phthisis.
1418	N. McM ..	F	62	September 11, " ..	2	3	4	Enteritis.
1262	M. McG ..	F	28	" 20, " ..	4	6	19	Exhaustion

TABLE No. 7.

Shewing Trades, Callings and Occupations of Patients admitted into the Asylum.

Trades, Callings and Occupations.	During the Year.			During Former Years.			Total.
	Males.	Females	Total.	Males.	Females	Total.	
Agents	1		1	1		1	2
Book-keepers				1		1	1
Bakers				6		6	6
Bricklayers				1		1	1
Blacksmiths	2		2	19		19	21
Barbers				2		2	2
Barristers				3		3	3
Cabinet-makers	2		2				2
Coopers				3		3	3
Carpenters	4		4	45		45	49
Clerks	3		3	18		18	21
Clergymen				3		3	3
Cheese-makers	1		1				1
Carriage-makers				3		3	3
Cooks				1	2	3	3
Carders				3		3	3
Captains of steamboats				3		3	3
Custom-house officers				2		2	2
Carters				1		1	1
Domestic servants, all kinds		14	14	14	197	211	225
Dressmakers		1	1		15	15	16
Detectives				1		1	1
Druggists	1		1	1		1	2
Engineers				3		3	3
Farmers	19	1	20	220		222	242
Fishermen				1		1	1
Grocers				1		1	1
Harness-makers	2		2	6		6	8
Housekeepers					13	13	13
Inn-keepers				1		1	1
Jewellers				2		2	2
Janitors	1		1				1
Labourers	17		17	255		255	272
Lumbermen				1		1	1
Milliners		1	1				1
Masons	1		1	1		1	2
Machinists	2		2	7		7	9
Matchmakers	1		1				1
Millers				3		3	3
Moulders	1		1	1		1	2
Merchants				14		14	14
Music-teachers				1		1	1
No occupation		7	7	4	3	7	14
Not stated				121	171	292	292
Other occupations				5	24	29	29
Prostitutes					1	1	1
Painters	1		1	11		11	12
Printers	3		3	1		1	4
Peddlers	2		2				2
Physicians				4		4	4
Pump-makers				2		2	2
Sailors				11		11	11
Students				3		3	3
Shoemakers				38		38	38
Seamstresses		1	1		41	41	42

TABLE No. 7.—*Continued.*

Shewing Trades, Callings and Occupations of Patients admitted into the Asylum.

Trades, Callings and Occupations.	During the Year.			During Former Years.			Total.
	Males.	Females	Total.	Males.	Females	Total.	
Station-masters	.....	.....	.....	2	.....	2	2
Soldiers	.....	.....	.....	10	.....	10	10
Teachers	1	1	2	11	12	23	25
Tinsmiths	1	.....	1	2	.....	2	3
Tavern-keepers	2	.....	2	11	.....	11	13
Tailors	.....	.....	.....	2	.....	2	2
Upholsterers	1	.....	1	.....	.....	.....	1
Wives	.....	31	31	.....	172	172	203
Unknown or other employments	5	1	6	.....	.....	.....	6
Total	74	58	132	888	651	1539	1671

TABLE No. 8.

Shewing causes of Insanity.

CAUSES OF INSANITY. In respect of the admissions for the year ending 30th September, 1884.	Number of instances in which each cause was assigned.					
	As predisposing cause.			As exciting cause.		
	Male.	Female.	Total.	Male.	Female.	Total.
Moral.						
Domestic troubles, including loss of relatives or friends	.....	.....	.....	2	8	10
Religious excitement	.....	.....	.....	5	1	6
Adverse circumstances, including business troubles	.....	.....	.....	5	.....	5
Love affairs, including seduction	.....	.....	.....	.....	.....	.....
Mental anxiety—worry	.....	.....	.....	1	.....	1
Fright and nervous shocks	.....	.....	.....	.....	.....	.....
Physical.						
Intemperance in drink	.....	.....	.....	1	1	2
" sexual	.....	.....	.....	.....	.....	.....
Venereal disease	.....	.....	.....	.....	.....	.....
Self-abuse, sexual	.....	.....	.....	6	.....	6
Over-work	.....	.....	.....	.....	1	1
Sunstroke	.....	.....	.....	3	.....	3
Accident or injury	.....	.....	.....	2	.....	2
Pregnancy	.....	.....	.....	.....	1	1
Puerperal	.....	.....	.....	.....	5	5
Lactation	.....	.....	.....	.....	1	1
Pub-rty and change of life	.....	.....	.....	.....	2	2
Uterine disorders	.....	.....	.....	.....	2	2
Brain disease, with general paralysis	.....	.....	.....	4	2	6
" " epilepsy	.....	.....	.....	5	2	7
Other forms of brain disease	.....	.....	.....	.....	1	1
Other bodily diseases or disorders, including old age	.....	.....	.....	1	2	3
Fevers	.....	.....	.....	2	1	3
Hereditary.						
With other ascertained cause in combination	15	12	27	.....	.....	.....
With other combined cause not ascertained	14	7	21	.....	.....	.....
Congenital.						
With other ascertained cause in combination	.....	.....	.....	.....	.....	.....
With other combined cause not ascertained	1	2	3	.....	.....	.....
Unknown	44	37	81	37	28	65
Total	74	58	132	74	58	132

TABLE No. 9.

Shewing the Probational Discharges and the result thereof.

Reg. No.	Sex.	Initials.	Date of Probational Discharge.	Term of Probation.	Result.
1519	M	R. P.....	October 20, 1883.....	3 Months	Returned, unimproved.
1489	M	R. S.....	Nov. 6, "	4 "	Discharged, recovered.
1166	M	E. C.....	" 21, "	3 "	" improved.
1226	F	H. M. S...	Dec. 18, "	1 "	" recovered.
1363	F	S. McM. ..	" 27, "	3 "	Returned, unimproved.
1467	M	C. S.....	Jan'y. 12, 1884.....	6 "	Discharged, recovered.
1527	M	J. A. McC.	March 25, "	3 "	" improved.
1525	F	V. F.....	May 23, "	3 "	" recovered.
1585	F	A. J. W...	" 24, "	3 "	" "
1506	M	J. S. S	June 19, "	3 "	" improved.
1580	F	M. S. B....	" 24, "	3 "	Still on probation.
1346	M	A. McD...	" 27, "	3 "	"
1556	M	W. B. G...	July 5, "	3 "	"
1582	F	M. J. C....	" 14, "	3 "	"
1501	F	S. G.....	August 2, "	3 "	"
1248	F	E. K.....	" 12, "	1 "	Discharged, recovered.
1633	F	J. McD...	Sept. 4, "	1 "	Still on probation.
1637	F	M. McK ..	" 15, "	6 "	"
1211	F	J. M	" 30. "	3 "	"

Summary of Probational Discharges.

	Males.	Females.	Total.	Males.	Females.	Total.
Number to whom probational leave was granted....	.....	.....	.....	8	11	19
Discharged, recovered.....	2	4	6	.....	.....	.....
" improved.....	3	.....	3	.....	.....	.....
" unimproved	.....	.....	.....	.....	.....	.....
Died before expiration of leave	.....	.....	.....	.....	.....	.....
Returned to Asylum	1	1	2	.....	.....	.....
				6	5	11
Absent on probation on 30th September, 1884	.....	.....	.....	2	6	8

TABLE No. 10.

PERIODS.	Duration of insanity prior to admission.	Length of residence of those remaining in Asylum on 30th September.	Periods of treatment of those who were discharged cured during the year.	Periods of treatment of those who were discharged improved during the year.	Periods of treatment of those who were discharged unimproved during the year.
Under 1 month	9	9	1		
rom 1 to 2 months	31	9	5		
" 2 " 3 "	9	12	5		1
" 3 " 4 "	8	10	4	3	
" 4 " 5 "	2	4	4		
" 5 " 6 "	1	11	3	1	
" 6 " 7 "	9	26	1		
" 7 " 8 "		4	1	2	
" 8 " 9 "	1	2	1		
" 9 " 10 "	2	4			
" 10 " 11 "				1	
" 11 " 12 "		1	2		
" 12 " 18 "	3	13	6	2	1
" 18 months to 2 years	8	22	1		
" 2 to 3 years	6	42	1	1	
" 3 " 4 "	1	32			
" 4 " 5 "	4	20	2		1
" 5 " 6 "	3	21		2	
" 6 " 7 "	3	34			
" 7 " 8 "	1	33			
" 8 " 9 "	4	14			
" 9 " 10 "	1	8		1	
" 10 " 15 "	7	99			
" 15 " 20 "	6	49			
" 20 years and upwards	13	21			
Totals	132	500	37	13	3

TABLE No. 11.

Shewing the nature of employment and the number of days' work performed by patients during the year.

NATURE OF EMPLOYMENT.	Number of patients who Worked.			Days Worked.		
	Male	Female.	Total.	Male.	Female.	Total.
Carpenter's Shop	6	.....	6	683	.....	683
Tailor's Shop	4	.....	4	944	.....	944
Shoe Shop	2	.....	2	625	.....	625
Engineer's Shop	7	.....	7	1726	.....	1726
Blacksmith's Shop	1	.....	1	300	.....	300
Mason Work	1	.....	1	300	.....	300
Repairing Roads	.....	.....	.....	.....	.....	.....
Wood Yard and Coal Shed	4	.....	4	850	.....	850
Bakery	2	.....	2	202	.....	202
Laundry	2	7	9	626	1847	2473
Dairy	.....	7	7	.....	898	898
Butcher's Shop and Slaughter House	4	.....	4	950	.....	950
Piggery	5	.....	5	1435	.....	1435
Painting	4	.....	4	501	.....	501
Farm	24	.....	24	4608	.....	4608
Garden	19	.....	19	2885	.....	2885
Grounds and Roads	25	.....	25	3454	.....	3454
Stable	5	.....	5	1435	.....	1435
Kitchen	3	9	12	785	890	1675
Dining Rooms	10	19	29	2939	5107	8046
Officers' Quarters	.....	5	5	.....	709	709
Sewing Rooms	.....	39	39	.....	7009	7009
Knitting	.....	40	40	.....	8024	8024
Spinning	.....	.....	.....	.....	.....	.....
Mending	.....	10	10	.....	2143	2143
Wards and Halls	68	37	105	17245	8118	25363
Storeroom	1	.....	1	310	.....	310
General	28	47	75	6055	10398	16453
Total	225	220	445	48858	45143	94001

TABLE No. 12.

Shewing the number of Articles made and repaired during the Official Year ending September 30th, 1884.

ARTICLES.	Made.	Repaired.	ARTICLES.	Made.	Repaired.
Aprons	551	908	Mitts, pairs	8	25
Bonnets, sun	59	.....	Mats, rags	41	.....
Blankets	3	206	Mattrasses, hair	3	264
Bed ticks	35	739	Napkins, table	12	.....
Boots, long	7	18	Overalls, pairs	12	.....
Boots, Cobourg	75	50	Pants, pairs	251	699
Boots, women's	11	15	Pillows, hair	.....	460
Coats	160	252	Pillow Cases	644	431
Chemises	235	1008	Pillow Ticks	21	108
Caps	20	54	Petticoats	303	909
Counterpanes	.....	271	Slippers, leather	201	8
Carpets, re-made	.....	3	Slippers, canvas	162	.....
Carpets, rag, lbs	110	.....	Shirts	456	1392
Drawers, pairs	66	152	Socks, pairs	339	2778
Dresses	369	970	Socks, marked	312	.....
Dresses, night	144	235	Stockings, pairs	327	1572
Dresses, nurses'	36	.....	Sheets	981	732
Harness, sets	.....	4	Vests	107	136
Harness, straps, etc	5	23	Window Blinds	128	.....
Lambrequins	20	.....	Tablecloths	13	3
Hats, trimmed	150	.....	Toilet Covers	6	.....

TABLE No. 13.

Returns from the Farm and Garden for the year ending 30th September, 1884.

				$ c.
4760	Bunches	Parsley, Onions, Sage, Thyme, Lettuce, Asparagus, Savory, Radishes, etc.	$0 05	238 00
1450	"	Rhubarb	0 10	145 00
65	Bushels	Parsnips	0 60	39 00
42	"	Spinach	0 50	21 00
36	"	Green Peas and Beans	0 75	27 00
8	"	Salsify	1 50	12 00
65	"	Tomatoes	0 75	48 75
480	"	Carrots	0 30	144 00
240	"	Onions	1 00	240 00
3800	"	Potatoes	0 50	1900 00
156	"	Beets	0 50	78 00
660	"	Mangolds	0 30	198 00
100	"	Turnips	0 30	30 00
12	"	Cucumbers	1 50	18 00
400	"	Apples	0 80	320 00
560	"	Oats	0 45	252 00
36	Quarts	Capsicums	0 10	3 60
965	"	Currants, Gooseberries, Strawberries, etc	0 09	86 85
2320	Heads	Cabage and Cauliflower	0 05	116 00
400	Roots	Celery	0 06	24 00
380	Dozen	Green Corn	0 10	38 00
16	"	Melons and Squashes	2 00	32 00
380	Pounds	Grapes	0 10	38 00
25	Tons	Hay	9 00	225 00
10	"	Straw	5 00	50 00
560	Loads	Green Feed	0 50	280 00
8125	Gallons	Milk	0 20	1625 00
46		Pigs sold		204 00
4	Deacon	Skins		2 00
5523	Pounds	Pork killed and consumed	0 08	441 84
		Total		6877 04

ASYLUM FOR THE INSANE, HAMILTON.

HAMILTON, OCTOBER 1ST, 1884.

To the Inspector of Asylums and Public Charities, Toronto.

SIR,—I have the honour to submit the ninth Annual Report of the Asylum for the Insane, Hamilton, for the year ending September 30th, 1884.

At the beginning of the official year there were in residence 547 patients, 246 men and 301 women.

There were 109 admissions during the year, 58 men and 51 women; 30 men and 19 women were admitted from county gaols under warrant of the Lieutenant-Governor. 28 men and 32 women were admitted by the ordinary process by medical certificates.

The total number under treatment during the year was 656, of whom 304 were men and 352 were women.

The average daily population was 557.11, 260.78 men and 296.33 women.

The total number of discharges during the year was 62, 21 men and 41 women, of whom 53 were recovered, 20 men and 33 women, 1 man and 5 women were improved, and 3 women unimproved.

The number of those who died was 27, 13 men and 14 women.

The number remaining in the Asylum on the 30th September, 1884 was 561, 265 men and 296 women, 14 more than were in residence on the same date last year. The wards on both men and women's side of the house are nearly filled to their utmost capacity, there being only one vacant bed on the men's side and four on the women's. These vacancies are awarded, and a considerable number of applications for the admission of men and women are on file.

The number discharged recovered during the year is the highest ever discharged in sound mind from the Asylum in one year, and gives the percentage of 48.68 on the admissions. Some of those who recovered were extremely unpromising cases when admitted, bearing unmistakable marks of neglect and bad usage, and requiring the greatest care and attention from physicians and attendants to save their lives. The periods under treatment in the Asylum of those who recovered varied from three and a half years to three months. All excepting 17 were admitted during the year.

The number of deaths being 27 during the year, makes a mortality rate of 4.43 per cent. on the whole number under treatment. The cause of death in the largest number of cases, 10 was from phthisis, there were 4 from general paralysis, the balance were from general debility and senile decay. No suicide occurred. There was one sudden death, a man suffering from general paralysis while at dinner became asphyxiated by a morsel of food passing into the trachea. I was at once sent for, and with the assistant physician, went prepared to open the trachea if necessary, and was at the patient's side in a very few minutes. We were too late to render him any assistance as he was just expiring when we reached him. Very great care is always necessary in the feeding of paretic patients, they are sometimes very voracious eaters, and if not closely watched will stuff food into their mouths far faster than they can possibly swallow it, while at the same time their power of deglutition is very much impaired by the partial loss of co-ordinating power in the muscles of deglutition. The meat for such patients should always be minced, and other food broken up into small morsels, a rule which is strictly enforced here. No inquest was held on the case; the Coroner was notified but he did not consider that the case called for an inquest.

There were five escapes from the Asylum during the year, all men; all excepting one were privileged with the freedom of the grounds and walked away when no attendant was near. One man voluntarily returned after being away nearly three months, during which time he had been in Buffalo. He had been arrested as a vagrant there and sent to the Poor House, from thence he was transferred to the County Asylum. The authorities of the Asylum gave him a railway ticket for Hamilton, and he returned to the Asylum and requested me to take him in again. His relatives are in good circumstances and live in the adjoining county, but he would not consent to go home. I communicated with his friends and they had him again admitted by certificate. He told me that he had no intention of escaping when he went away; he had been to the city a few days before and had seen the Salvation Army in procession and heard one of their number delivering a harangue on the street, it excited his

religious tendencies, he became impressed with the idea that he should go out and preach and convert the people; and with this intention he made his way across the lines and commenced his evangelizing work in Buffalo. Another man left a walking party on the grounds. Diligent and protracted search failed to discover a trace of him. Six months after he left I received a letter from him from a town in the north of England, apologizing for having left in so unceremonious a manner, and describing at great length how he made his way to Buffalo, from there he tramped all the way to Baltimore, Maryland, got on board a ship about to sail for England and engaged with the captain to work his passage home. When he reached his home he did not receive so kind a welcome as he expected, and he again started out and was at that time working at his trade in a ship yard on the banks of the Tyne. The other three were never heard from, but as they were healthy young men, mentally imbecile but possessing intelligence enough to take care of themselves, it is probable that they are earning their living on the other side of the lines.

It is worthy of note that in four cases, two men and two women, who were admitted this year, the principal factor in exciting the attack of insanity was undoubtedly religious excitement, resulting from their attendance on meetings of the Salvation Army.

The number of those who were taken home by their friends on probational leave was forty; of whom ten men and nineteen women, were discharged recovered when their term of probation expired; three men and seven women were returned to the Asylum, and one is still with her friends, her term not having yet expired.

The exciting cause of insanity in those who were admitted during the year, the greatest number, twenty-three, is assigned to adverse circumstances and mental worry, twelve to religious excitement; five cases only were attributed to intemperance in drink. In thirty-one the predisposing cause is said to be hereditary, and no predisposing cause at all is given in the balance. It should be stated that in the majority of cases the answers to the questions on the commitment papers on the subject of the cause of the attack, are very unsatisfactory and fallacious, attributable in some measure to want of care on the part of the examiner, and on the part of relatives to a reluctance to impart information which they may think to be damaiging to their family history. Enquiry into the history of patients subsequent to their admission, usually elicits much interesting and important information which should have been given in the commitment papers. There appears to be very little doubt that adverse circumstances, intemperance and excesses, are the prevailing exciting causes, combined with an inherited tendency to the disease. According to the most experienced observers, the percentage of hereditary predisposition is as high as seventy-five.

The employment of patients has received even more attention this year than formerly. Out of our whole population a daily average of 370 are engaged in some kind of useful occupation. There are very few, either men or women, who are physically and mentally capable, who are not induced to do some kind of work. The benefit of this treatment is very apparent, the active exercise in the open air for several hours during the day breaks the monotony of Asylum life, is conducive to cheerfulness and greater contentment, improves the appetite, and by causing mild fatigue induces quietness and sleep during the night. All these are very important factors in the improvement of the mental and physical health. In addition to the moral and physical benefits obtained, a glance at table No. 10 will show the great pecuniary value of the work done.

The amusements provided for the patients have been of a highly satisfactory character. During the season concerts, readings, and dramatic entertainments have been regularly given, and the weekly dance continues to be highly appreciated. An afternoon has been devoted every week during the summer months to outdoor amusements of various kinds in which a large number of patients participate, under the direction of attendants, and every day—unless when the weather is unfavourable—every patient who is able to go out spends the greater part of the day in the open air, either at work, or in walking parties or in the airing courts.

Divine service has been conducted regularly every Sabbath morning by the Rev. G. A. Bull, Mr. Alex. Gaviller, and ministers of the Ministerial Association of Hamilton. These services are attended by an average of 250 patients. No Roman Catholic service has yet been established, but the priests of the city frequently visit the patients of that communion in their rooms in the Asylum.

The new building, designated East House, to distinguish it from a similar building to be erected next year on the ground to the west of the Main Asylum, is now nearly completed. The agreement required this building to be ready for occupation on the first of September, but the contractor has failed to meet his obligation in that respect, and will be at least six weeks behind the time specified. This building is intended for the accommodation of sixty male patients, but in the meantime it will be necessary to use one of the wings for female patients until the West House, which will be for women, is finished. These houses are to be devoted specially to the reception and treatment of acute cases. The structural arrangement of the wards is very well adapted to the purpose. The corridors are broad and high and very well lighted. The bedrooms are all single. The window frames and sashes are iron and have a very neat appearance, and so strong that no guards of any kind will be required. The building is heated by hot water, and in each alcove and parlour there is an open fireplace. We hope to be able to receive patients into this building about the 20th of this month.

Several very important improvements have been effected during the year. A new building has been erected for a laundry, drying room and additional rooms for servants. The new laundry is a spacious and well arranged room, containing twenty-four fixed wash tubs for hand washing, boilers, one large washing machine, and a new washing machine on the rotary principle is just now being placed in it. The machinery is driven by a new thirty horse-power engine. The room formerly used as a laundry has been altered and is now used as a kitchen. The ceiling and floor of the room above have been removed, giving the kitchen ceiling the height of twenty-four feet and two rows of windows, ensuring the most perfect ventilation and good light. This is a change which was urgently needed, as the old kitchen was too small, badly lighted, and not ventilated at all. The old kitchen has been converted into a pantry. The water-closet which adjoined the old laundry has been removed and the space made into a sculiery. We have now as well appointed a kitchen as could reasonably be desired. The bakery has undergone a complete overhauling. The ovens have been rebuilt and improved, and a door made in the bake house to communicate with the old pantry, which has been fitted up as a bread and flour room, adding greatly to the comfort and convenience of the baker.

The floors in the centre basement, which were of wood, had become badly affected with dry rot and had fallen in in many places, have been removed and replaced by concrete and cement in a very substantial manner. The whole length of the corridor in the centre building, and from the centre corridor to the laundry in the rear extension, has been thus altered; several of the storerooms have also been concreted and cemented, two or three rooms only remain now to be done, and we are proceeding with the work as rapidly as we can. I hope that next year we will be allowed the material to continue the work in the basement until we have completed the corridors and bedrooms in the wings which are occupied by patients. In the wings it is proposed to concrete and overlay it with a hardwood floor, thus securing the wards against dampness and effectually preventing the harbouring of rats.

A number of men have been regularly employed painting corridors, bedrooms, and halls. The associated dining-room and halls in the centre building have been all repainted, and the amusement hall is now being repainted and decorated.

The roof of the main building continues to be the source of much annoyance and discomfort. It has been repaired repeatedly. The last time only a few weeks ago, but there is no appreciable difference in the leaks. It is a waste of time and money going on from time to time repairing this roof. The only remedy is a new roof, and I trust it will be made next year.

The carpenter shop must be removed from its present location, it being too near the new building, and standing inconveniently in the way of the approach to it. It is a rather dilapidated wooden building, and much too small for the purpose. I would recommend that the brick coal shed, which is attached to the south end of the rear extension, be altered and fitted up for carpenter and other work shops, which can be very easily done and at but small cost. All that is necessary to make it into convenient and commodious work shops is to put a number of windows in the walls, and put in a new floor and flues for stoves for heating purposes. A more convenient coal shed can be built of wood at small cost. Our

present coal shed is by much too small and very badly constructed for the purpose; a large proportion of our yearly supply of coal has to be left outside.

Our farm buildings are so near the Asylum that they are a positive nuisance. They are also very inferior and inconvenient wooden buildings, out of keeping altogether with the other buildings on the property. I would earnestly recommend that an appropriation be made for the erection of suitable buildings on a site to be chosen at a proper distance from the Asylum.

A cottage for the farmer is very urgently required. He lives at present several miles from the farm. Having the charge and management of the farm and stock, it is necessary for the proper discharge of his duties that he reside on the premises. As it is now and has been, he is here only during work hours, and much of the most important work of the farmer has to be done by others in his absence.

The season having been very favourable, the result of the farm operations has been very satisfactory. We are every year more and more realizing the necessity for more land, Our lot consists of 100 acres of land. more than one-half of which is occupied by buildings and in woodland. There are about ten acres only under cultivation, the balance in pasture. The amount of land under cultivation is not nearly enough to furnish employment for the men who are able to do farm work, and as we have in stock an average of twenty-five cattle, including milch cows and beef cattle, and about the same number of sheep, we have little more than half enough of pasture land, and have during the whole summer to buy a large quantity of feed, which greatly increases the cost of the production of our milk and beef; and as our population is constantly increasing it will be necessary to increase our number of milch cows.

An addition has been made to the staff by the appointment of a Bursar's clerk. No other change has taken place in the staff, and all the officers continue to fulfil their duties with efficiency. There have been few changes among the attendants and other employees, and it is a pleasure to be able to state that all have discharged their arduous duties with commendable zeal and efficiency.

I have the honour to be, Sir,

Your obedient servant,

J. M. WALLACE,

Medical Superintendent.

ANNUAL STATISTICAL REPORT

Of the operations of the Asylum for Insane, Hamilton, for the year ending 30th September, 1884.

TABLE NO. 1.

Shewing movements of patients in the Asylum for the official year ending 30th September, 1884.

——	Male.	Female.	Total.	Male.	Female.	Total.
Remaining, October 1st, 1883				246	301	547
Admitted during year:—						
By Lieutenant-Governor's Warrant	30	19	49			
" Medical Certificate	28	32	60			
				58	51	109
Total number under treatment during year				304	352	656
Discharges during year:—						
As recovered	20	33	53			
" improved	1	5	6			
" unimproved	.....	3	3			
Total number of discharges during year	21	41	62			
Died	13	14	27			
Eloped	5	.....	5			
Transferred	.....	1	1			
				39	56	95
Remaining in Asylum, 30th Sept., 1884				265	296	561
Total number admitted since opening of Asylum				574	576	1150
" discharged	150	177	327			
" died	134	99	233			
" eloped	22	.....	22			
" transferred	3	4	7			
				309	280	589
" remaining, 30th Sept., 1884				265	296	561
No. of applications on file 30th Sept., 1884	12	4	16			

TABLE NO. 2.

Shewing the maximum and minimum number of patients resident in the Asylum, the total number of days' stay of patients, and the daily average number of patients in the Asylum, from the 1st October, 1883, to 30th September, 1884.

	Male.	Female.	Total.
Maximum number of patients in residence (on the 19th May, 1884)..	268	300	568
Minimum " " " (on the 8th October, 1883)	245	300	545
Collective days' stay of all patients in residence during year	95184.70	108160.45	203345.15
Daily average population	260.78	296.33	557.11

	Admissions of Year.			Total Admissions since Opening.		
	Male.	Female.	Total.	Male.	Female.	Total.
Social State.						
Married	30	30	60	258	325	583
Widowed	.....	.....	.....	.....	.....	.....
Single	28	21	49	316	251	567
Not reported	.....	.....	.....	.....	.....	.....
Total	58	51	109	574	576	1150
Religion.						
Presbyterians	8	11	19	119	111	230
Episcopalians	15	9	24	128	104	232
Methodists	14	16	30	115	113	228
Baptists	3	2	5	20	32	52
Congregationalists	3	.....	3	3	3	6
Roman Catholics	4	9	13	117	155	272
Mennonites	1	1	2	6	3	9
Quakers	.....	.....	.....	3	3	6
Infidels	.....	.....	.....	1	.....	1
Other denominations	6	2	8	27	29	56
Not reported	4	1	5	35	23	58
Total	58	51	109	574	576	1150
Nationalities.						
English	10	2	12	100	61	161
Irish	8	8	16	97	149	246
Scotch	8	1	9	53	52	105
Canadian	29	35	64	273	267	540
United States	1	2	3	10	8	18
Other Countries	2	3	5	20	25	45
Unknown	.....	.....	.....	21	14	35
Total	58	51	109	574	576	1150

TABLE No. 3.

Shewing the Counties from which patients have been admitted up to 30th September, 1884.

COUNTIES.	Admitted During Year.			Total Admissions.		
	Male.	Female.	Total.	Male.	Female.	Total.
Algoma District				1	2	3
Brant	3	1	4	20	22	42
Bruce			4	1	8	9
Carleton				9	7	16
Dufferin					2	2
Elgin				1	5	6
Essex					1	1
Frontenac				2	6	8
Grey	3	1	4	24	17	41
Haldimand	3	1	4	17	14	31
Halton	4	4	8	21	19	40
Hastings				4	3	7
Huron				3	7	10
Kent				1	4	5
Lambton				3	2	5
Lanark				1	1	2
Leeds and Grenville				4	5	9
Lennox and Addington				10		10
Lincoln	4	3	7	28	33	61
Middlesex				9	4	13
Muskoka District						
Norfolk	1	3	4	11	22	33
Northumberland and Durham	1		1	26	27	53
Ontario				18	23	41
Oxford				3	1	4
Peel				9	10	19
Perth				1	3	4
Peterborough				6	10	16
Prescott and Russell				3		3
Prince Edward				4	2	6
Renfrew				2	2	4
Simcoe	10	8	18	63	47	110
Stormont, Dundas and Glengarry				13	9	22
Victoria				8	9	17
Waterloo	3	4	7	12	19	31
Welland	1	4	5	18	18	36
Wellington	11	4	15	37	31	68
Wentworth	12	13	25	88	91	179
York	2	1	3	92	90	182
Not Classed				1		1
Total admissions	58	51	109	574	576	1150

TABLE No. 4.

Shewing the Counties from which warranted cases have been admitted up to 30th September, 1884.

COUNTIES.	Admitted During Year.			Total Admissions.		
	Male.	Female.	Total.	Male.	Female.	Total.
Algoma District						
Brant	2	1	3	12	9	21
Bruce		4	4	1	5	6
Carleton				8	3	11
Dufferin					2	2
Elgin					1	1
Essex					1	1
Frontenac				2	1	3
Grey	3		3	19	9	28
Haldimand	1		1	7	3	10
Halton	1	2	3	11	6	17
Hastings				4	2	6
Huron					1	1
Kent						
Lambton				1		1
Lanark				3	1	4
Leeds and Grenville				3	4	7
Lennox and Addington				9		9
Lincoln	2	1	3	22	15	37
Middlesex				3		3
Muskoka District						
Norfolk	1	1	2	6	11	17
Northumberland and Durham	1		1	16	13	29
Ontario				14	15	29
Oxford				1	1	2
Peel				3	4	7
Perth					1	1
Peterborough				6	7	13
Prescott and Russell				3		3
Prince Edward				2	2	4
Renfrew				2		2
Simcoe	8	4	12	49	22	71
Stormont, Dundas and Glengarry				11	3	14
Victoria				6	8	14
Waterloo	2	1	3	7	3	10
Welland	1		1	14	7	21
Wellington	4	3	7	16	7	23
Wentworth	2	1	3	28	22	50
York	2	1	3	70	53	123
Not Classed						
Total admissions	30	19	49	359	242	601

TABLE No. 5.

Shewing the length of Residence in the Asylum of those discharged during the year.

No.	Initials.	Sex.	When Admitted.	When Discharged.	Remarks.
1037	M. M.....	F.....	August 31st, 1883....	October 3rd, 1883....	Improved.
1033	A. D. R...	F.....	" 16th, 1883....	November 2nd, "	Unimproved.
992	A. M.....	F.....	April 20th, "	" 20th, "	Recovered
999	M. A. T...	F.....	" 30th, "	" 20th, "	"
1005	M. J. A...	F.....	May 9th, "	" 20th, "	"
475	J. McK ...	F.....	" 3rd, 1880....	" 29th, "	"
988	C. W	F.....	April 17th, 1883....	December 10th, "	"
942	E. M.....	F.....	December 2nd, 1882.. .	" 11th, "	"
1017	E. S	F.....	February 9th, 1883....	" 12th, "	"
936	W. H.....	M	November 18th, 1882....	" 12th, "	"
986	F. W.....	F.....	April 13th, 1883....	" 15th, "	"
864	W. E. S...	M	September 23rd, 1882....	" 26th, "	"
1036	B. E. S ...	F.....	August 28th, 1883....	January 11th, 1884....	"
1060	M. H	F.....	December 11th, "	" 19th, "	Unimproved.
1030	M. M.....	M	July 25th, "	" 30th, "	Recovered.
1052	E. S. D ...	M	November 3rd, "	February 25th, "	"
781	M. T.....	F.....	December 19th, 1881....	" 27th, "	"
1054	J. R	F.....	November 13th, 1883....	March 7th, "	Improved.
1082	W. F	M	February 25th, 1884....	" 17th, "	"
1071	C. M.....	F.....	January 12th, "	" 18th, "	Recovered.
941	M. M	F.....	December 2nd, 1882....	" 19th, "	"
1019	I. L.	F.....	June 11th, 1883....	" 27th, "	"
1053	D. C.....	M	November 9th, "	" 27th, "	"
1022	G. R. T ...	M	July 6th, "	April 28th, "	"
1097	H. E. D ..	F.....	April 9th, "	May 1st, "	Improved.
1042	J. A. H...	M	October 3rd, 1883....	" 20th, "	Recovered.
1073	J. W.....	M	January 23rd, "	" 27th, "	"
1040	M. S.....	F.....	September 21st, " . ..	June 2nd, "	"
1070	A. O'B....	M	January 11th, "	" 2nd, "	"
1065	D. M	M	December 28th, "	" 7th, "	"
775	E. G.....	F.....	" 8th, 1881....	" 7th, "	"
607	C. P	F.....	November 15th, 1880....	" 7th, "	"
1061	I. L	F.....	December 15th, 1883....	" 12th, "	"
1067	W. M	F.....	January 7th, 1884....	" 13th, "	"
1106	S. L	F.....	May 2nd, "	" 16th, "	Unimproved.
624	E. H.....	F.....	December 12th, 1880....	" 18th, "	Recovered.
543	V. S	F.....	August 11th, 1880....	" 24th, "	Improved.
1105	F. V. G...	M	April 26th, 1884....	" 28th. "	Recovered.
618	C. F	M	December 3rd, 1880....	" 30th, "	"
1089	A. K.....	M	March 7th, 1884....	July 3rd, "	"
1083	S. E. B....	F.....	February 27th, "	" 5th, "	"
810	A. O.....	M	March 23rd, 1882....	" 18th, "	"
915	M. M.....	F.....	October 27th, 1882....	" 24th, "	Unimproved.
1098	B. B	F.....	April 10th, 1884....	" 28th, "	Recovered.
830	S. C	F.....	June 13th, 1882....	August 9th, "	"
1093	I. B.....	M	March 31st, 1884....	" 11th, "	"
1015	B. C.....	F.....	May 31st, 1883....	" 25th, "	"
1006	H. L.....	F.....	" 10th, "	" 25th, "	"
1044	J. C	M	October 9th, "	" 25th, "	"
1069	M. A. C ..	F.....	January 11th, 1884....	" 25th, "	"
505	J. S.....	M	June 17th, 1880....	" 26th, "	"
959	R. M	M	January 18th, 1884....	" 30th, "	"
1038	M. A. M..	F.....	September 1st, 1883....	" 30th. "	"
958	M. G	F.....	January 17th, "	" 30th, "	"
1081	M. M.....	F.....	February 16th, 1884....	September 2nd, "	"
1122	A. M	F.....	July 3rd, "	" 10th, "	"
1068	M. G	F.....	January 8th, "	" 13th, "	"
1086	R. J. S....	M	March 1st, "	" 15th, "	"
1032	C. M.....	F.....	August 14th, 1883....	" 15th. "	"
445	C. B	F.....	March 23rd, 1880....	" 22nd, "	"
1109	S. T	F.....	May 12th, "	" 24th, "	"
1121	B. R.....	M	June 29th, 1884....	" 24th, "	"
766	C. J.....	F.....	November 8th, 1881....	" 29th, "	Improved.

TABLE NO. 6.

Shewing age, length of residence, and proximate cause of death of those who died during the year ending 30th September, 1884.

Reg. No.	Initals.	Sex.	Age.	Date of Death.	Residence in Asylum.			Proximate cause of death.
					Years	Months.	Days.	
634	J. J.....	M ...	33	October 1, 1883.	2	11	1	Phthisis.
476	L. McW..	F ...	28	" 13, "	3	5	9	Phthisis.
324	E. S.....	F ..	Not re-port'd	" 19, "	4	3	19	Phthisis.
275	E. B	F	51	November 11, "	4	7	8	General Debility.
495	M. W....	F	42	" 30, "	3	5	25	General Paresis.
50	P. B.....	F	49	December, 13, "	7	8	20	Exhaustion.
789	E. D.....	M ...	25	" 18, "	1	11	.....	Purp. Hæmorrhagica
449	I. C	M ...	35	" 26, "	3	9	3	Epilepsy.
914	M. P.....	F	62	" 28, "	1	2	1	Exhaustion.
963	J. A.....	M ...	34	January 8, 1884.	.....	11	5	Paresis.
967	F. V.....	F	43	" 25, "	.....	11	11	Phthisis.
976	C. Le. F..	M ...	36	February 1, "	.....	10	16	General Paresis.
896	M. L	F	51	" 3, "	1	5	10	Phthisis.
160	S. S.....	F	52	March 4, "	7	9	3	General Debility.
831	J. A. S ..	M ...	30	" 26, "	1	9	13	Epilepsy.
1018	G. B.....	M ...	68	" 27, "	.....	10	18	Senile Decay.
924	G. H.....	M ...	61	April 9, "	1	5	12	Cong. of the Lungs.
1077	J. G.....	M ...	72	" 11, "	.....	2	6	Senile Decay.
77	T. W	M ...	43	" 20, "	8	.....	12	General Debility.
1014	E. W	F	78	" 29, "	.....	10	29	Senile Decay.
593	J. O.....	M ...	23	May 1, "	3	6	10	Phthisis.
28	F. S.....	F	49	" 23, "	8	2	6	General Debility.
916	A. S	F	25	" 29, "	1	7	2	Phthisis.
674	J. A. R...	M ...	33	June 12, "	3	2	8	Phthisis.
175	S. L.....	M ...	34	" 13, "	8	.....	12	Phthisis.
1013	M. J. C ..	F	38	" 22, "	1	.....	26	General Paresis.
774	S. T	F	38	" 28, "	2	10	16	Phthisis.

TABLE No. 7.

Shewing Trades, Callings and Occupations of Patients admitted into the Asylum.

Trades, Callings and Occupations.	During the Year.			During Former Years.			Total.
	Males.	Female.	Total.	Males.	Female.	Total.	
Agents				1		1	1
Bakers	1		1				1
Bricklayers				2		2	2
Blacksmiths and wives	2	2	4	4	2	6	10
Brewers				1		1	1
Builders				1		1	1
Barbers				2		2	2
Broom-makers				1		1	1
Brakesmen					1	1	1
Button-makers		1	1				1
Baggagemen				1		1	1
Commercial travellers				3		3	3
Consuls				1		1	1
Confectioners				1		1	1
Coopers				1		1	1
Carpenters and wives	3	2	5	23		23	28
Clerks	1		1	14	3	17	18
Clergymen				4		4	4
Carriage-makers				1		1	1
Cigar-makers				1		1	1
Carters and wives				1	1	2	2
Domestic servants, all kinds		8	8		232	232	240
Dressmakers		1	1		3	3	4
Druggists				2		2	2
Doctors and wives		1	1	1	1	2	3
Engineers				1	1	2	2
Editors				1		1	1
Farmers, wives and daughters	24	15	39	168	44	212	251
Fishermen				1		1	1
Gardeners				3		3	3
Grocers				2		2	2
Glass-blowers and wives				1	1	2	2
Hostlers				1	1	2	2
Harness-makers				2		2	2
Housekeepers		3	3		76	76	79
Hair-dressers					1	1	1
Innkeepers				6		6	6
Journalists	1		1				1
Labourers	7	6	13	149	11	160	173
Lawyers and wives		1	1	1		1	2
Lathers				1		1	1
Milliners		1	1				1
Masons	1		1				1
Machinists and wives	1	1	2	4	1	5	7
Moulders	1		1	1		1	2
Merchants	2		2	2	1	3	5
Mechanics				14		14	14
Music-teachers					1	1	1
Marble-cutters				2		2	2
Millwrights	1		1				1
Messengers and wives		1	1				1
No occupation	1	4	5	2	12	14	19
Night-watchmen				1		1	1
Nurses					1	1	1
Carried forward	46	47	93	429	394	823	916

TABLE No. 7.—*Continued.*

Shewing Trades, Callings and Occupations of Patients admitted into the Asylum.

Trades, Callings and Occupations.	During the Year.			During Former Years.			Total.
	Males.	Female.	Total.	Males.	Female.	Total.	
Brought forward	46	47	93	429	394	823	916
Not stated				2	2	4	4
Photographers				2		2	2
Painters	1		1	5		5	6
Printers	1		1	2		2	3
Peddlers				4	1	5	5
Private Secretaries				1		1	1
Railway Employés and wives	1	1	2	1	1	2	4
Shipwrights	1		1				1
Spinsters					1	1	1
Sailors				5		5	5
Students	2		2	1		1	3
Spinners				3	3	6	6
Saddlers				2		2	2
Shoemakers	1		1	8		8	9
Seamstressess					14	14	14
Soldiers				1		1	1
Surveyors				1		1	1
Sail and tent-maker				1		1	1
Teachers			1	8	6	14	15
Tinsmiths and daughters	1	1	2	1	2	3	5
Tailors				4	3	7	7
Tanners				1		1	1
Teamsters	1		1				1
Turners	1		1				1
Vinegar-makers				1		1	1
Weavers				3	4	7	7
Wagon-makers		1	1	1		1	2
Waiters	2		2	1		1	3
Unknown or other employments				28	94	122	122
Total	58	51	109	516	525	1041	1150

TABLE No. 8.

Shewing causes of Insanity.

CAUSES OF INSANITY. In respect of the admissions for the year ending 30th September, 1884.	Number of instances in which each cause was assigned.					
	As predisposing cause.			As exciting cause.		
	Male.	Female.	Total.	Male.	Female.	Total.
Moral.						
Domestic troubles, including loss of relatives or friends					2	2
Religious excitement				8	4	12
Adverse circumstances, including business troubles				9		9
Love affairs, including seduction					3	3
Mental anxiety, "worry"				6	8	14
Fright and nervous shocks				1		1
Physical.						
Intemperance in drink				4	1	5
" sexual						
Venereal disease						
Self-abuse, sexual				2		2
Over-work						
Sunstroke						
Accident or injury				2		2
Pregnancy					1	1
Puerperal					1	1
Lactation						
Puberty and change of life						
Uterine disorders					5	5
Brain disease, with general paralysis						
" " epilepsy				2	2	4
Other forms of brain disease				1		1
Other bodily diseases or disorders, including old age				1	1	2
Fevers						
Hereditary.						
With other ascertained cause in combination	12	19	31			
With other combined cause not ascertained						
Congenital.						
With other ascertained cause in combination						
With other combined cause not ascertained						
Unknown	46	32	78	22	23	45
Total	58	51	109	58	51	109

TABLE No. 9.

Shewing the Probational Discharges and the result thereof.

Reg. No.	Sex.	Initials.	Date of Probational Discharge.	Term of Probation.	Result.
986	F	F. W.	Dec. 15, 1883	2 Months	Recovered.
942	F	E. M	" 11, "	2 "	"
999	F	M. A. T.	Nov. 20, "	1 "	"
1005	F	M. J. A.	" 20, "	1 "	"
475	F	J. S. McK.	" 29, "	1 "	"
954	F	E. McB.	Oct. 30, "	2 "	Returned.
1017	F	E. S.	Dec. 12, "	1 "	Recovered.
694	F	C. H.	Nov. 17, "	2 "	Returned.
618	M	C. F	June 30, 1884	7 "	Recovered.
1052	M	E. S. D	Feb. 25, "	2 "	"
1040	F	M. S.	Dec. 4, 1883	2 "	Returned.
624	F	E. H.	June 18, 1884	6 "	Recovered.
781	F	M. T.	Feb. 27, "	2 "	"
913	F	C. C.	Dec. 24, 1883	4 "	Returned.
989	M	E. N.	Dec. 27, "	6 "	"
1036	F	B. E. S.	Jan. 11, 1884	2 "	Recovered.
1019	F	I. L.	March 26, "	2 "	"
958	F	M. G.	Jan. 25, "	6 "	Returned.
1054	F	J. R	Feb. 2, "	2 "	"
1038	F	M. A. M.	Aug. 30, "	6 "	Recovered.
1015	F	B. C	Aug. 25, "	6 "	"
1042	M	J. A. H.	May 20, "	3 "	"
1022	M	G. R. T.	April 28, "	2 "	"
838	F	C. P. F	Feb. 29, "	1 "	Returned.
895	F	R. F.	Mar. 4, "	6 "	"
1032	F	C. M.	Sept. 15, "	6 "	Recovered.
1070	M	A. O'B.	June 2, "	2 "	"
445	F	C. B	Sept. 22, "	4 "	"
1067	F	W. M.	June 13, "	2 "	"
505	M	J. S.	Aug. 26, "	4 "	"
1073	M	J. M. W	May 27, "	1 "	"
1068	F	M. Q.	Sept. 13, "	4 "	"
1044	M	J. C.	Aug. 25, "	1 "	"
1101	M	J. W.	June 25, "	3 "	Returned.
1086	M	R. J. S.	Sept. 15, "	2 "	Recovered.
959	M	R. M. (col)	Aug. 30, "	1 "	"
1098	F	B. B.	July 28, "	2 "	"
1006	F	H. L.	Aug. 25, "	1 "	"
1063	M	R. M.	July 21, "	3 "	Returned.
1119	F	M. S.	Aug. 2, "	2 "	Out on leave.

Summary of Probational Discharges.

	Males.	Females.	Total.	Males.	Females.	Total.
Number to whom probational leave was granted	13	27	40			
Discharged, recovered				10	19	29
" improved						
" unimproved						
Died before expiration of leave						
Returned to Asylum				3	7	10
Absent on probation on 30th September, 1884					1	1
	13	27	40	13	27	40

TABLE No. 10.

Shewing the Articles made and repaired in the Sewing Room by the Tailor and Seamstress during the year ending September 30th, 1884.

Articles.	Made.	Repaired.	Articles.	Made.	Repaired.
Dresses	320	980	Stockings, pairs of	403	1800
Skirts	162	347	Socks "	840	989
Sheets	673	630	Mitts, (knitted) pairs of	94	40
Aprons	436	370	Carpets Balls	425	.....
Drawers, pairs of	20	290	Duck Suits	28	10
Nightgowns	12	276	Matrasses	4	.....
Chemises	246	690	Window Curtains	8	.....
Shirts	310	869	Men's Neckties	244	.....
Underwaists	30	.....	Undershirts	.....	89
Sun-bonnets	28	.....	Coats	75	423
Window-blinds	59	.....	Vests	65	236
Pillow Ticks	12	.....	Trowers	102	1143
Jackets (womens)	34	.....	Jackets, summer	83	198
Shrouds	47	.....	Overalls	2	.....
Night-caps	18	.....	Combinations	.....	48
Handkerchiefs	54	.....	Smocks	10	14
Toilet covers	37	.....	Caps	127	.....
Canvas Jackets	10	.....	Braces, pairs of	44	.....
Table Napkins	48	.....	Coverlets	.....	169
" Cloths	6	14	Blankets	.....	300
Breakfast Shawls	15	.....	Camisoles	2	.....
Pudding Cloths	48	.....	Mitts, cloth, pairs, (for working men)	104	.....
Towels	509	.....			
Pillow Slips	528	284			
Bed Ticks	120	440	Total	6442	10649

TABLE No. 11.

PERIODS.	Duration of insanity prior to admission.	Length of residence of those remaining in Asylum on 30th September.	Periods of treatment of those who were discharged cured during the year.	Periods of treatment of those who were discharged improved during the year.	Periods of treatment of those who were discharged unimproved during the year.
Under 1 month	31	11		2	
From 1 to 2 months	29	6		1	2
" 2 " 3 "	8	11	4		1
" 3 " 4 "	4	9	4	1	
" 4 " 5 "	2	4	7		
" 5 " 6 "	7	9	2		
" 6 " 7 "	3	6	6		
" 7 " 8 "		4	3		
" 8 " 9 "	3	4	4		
" 9 " 10 "	3	6	2		
" 10 " 11 "		5	2		
" 11 " 12 "	5	6			
" 12 " 18 "	2	34	7		
" 18 months to 2 years	3	30	2		
" 2 to 3 years		100	4	1	
" 3 " 4 "	1	69	4	1	
" 4 " 5 "		65	2		
" 5 " 6 "		53			
" 6 " 7 "	1	4			
" 7 " 8 "		125			
" 8 " 9 "					
" 9 " 10 "					
" 10 " 15 "	1				
" 15 " 20 "					
" 20 years and upwards					
Not stated	6				
Totals	109	561	53	6	3

TABLE No. 12.

Shewing the nature of employment and the number of days' work performed by patients during the year.

NATURE OF EMPLOYMENT.	Number of Patients who worked.	Days Worked.		
		Male.	Female.	Total.
Carpenter's shop	4	884		884
Tailor's shop	2	563		563
Engineer's shop	4	1020		1020
Mason work	10	1103		1103
Repairing roads	15	1966		1966
Wood yard and coal yard	15	2749		2749
Bakery	2	297		297
Laundry	21	1587	5304	6891
Dairy	5	1680		1680
Butcher's shop and slaughter house	2	384		384
Piggery	4	746		746
Painting	6	733		733
Farm	8	1338		1338
Garden	12	1303		1303
Grounds	6	733		733
Stable	2	360		360
Kitchen	11	1785	2106	3891
Dining rooms	22	2920	4578	7498
Sewing rooms	12		4446	4446
Knitting	30		8970	8970
Mending	8		2704	2704
Halls	95	20100	11533	31633
Storeroom	9	626	2522	3148
General	15	2880	1710	4590
Quarry	50	9476		9476
Total	370	55233	43873	99106

ASYLUM FOR IDIOTS, ORILLIA.

ORILLIA, 1st OCT., 1884.

To the Inspector of Asylums and Public Charities:

SIR:—I beg to transmit, herewith, the Eighth Annual Report of the operations of this Asylum.

Our movements have been fewer this year than any year since the opening of the institution, there being only fifteen admissions and eleven removals—ten by death and one taken home by friends—leaving in the Asylum 235 at the close of the year, of whom 123 are males and 112 males. On the 30th of September last year we had 122 males and 109 females—231 in all. The only thing remarkable in the movements is the fact that of the ten deaths seven were males, and all inmates of the cottage, and that no death occurred among the forty-eight males cared for in the Asylum. While the population of the cottage is seventy-five, there were seven deaths, and in the Asylum with a population of 160, we had only three deaths, less than 2 per cent.—a record, I venture to say, that was never made on this continent before. The record at the cottage, however, shows that with a total under care of eighty-three, the death rate reaches $7\frac{3}{4}$ per cent., a rather sad commentary on the sanitary condition of that building. This should be a powerful argument in favour of its abandonment at the very earliest possible time. The admissions have been fewer this year, owing to the few vacancies occurring. Out of a population of 246 under care during the year, we have had only ten deaths, a rate of 4 per cent., which is lower than has been reached in the history of our Asylum for some years.

I have 151 applications for admission, and this list is bound to increase until we make provision for their reception. Next year we will have at least 200 on fyle, if they increase at the same rate as they have done in the past five years. In 1880 we had six applications over our capacity for receiving; in 1881, twenty-four; in 1882, sixty-two; in 1883, 109; in 1884, 151—a large and gradual increase. The most of these are represented as urgent cases. A medical man in the west, writes me under date of 19th September, in reference to an application made by him about two years ago, as follows:—"I may say that he is still at large and in danger of perishing, and that he must be provided for in some institution from which he cannot escape." Another medical man, an ex-M.P.P., in forwarding an application on the 25th September, says:—"I trust you will accept without delay this poor unfortunate, as her mother, from her extreme age, is unable to give her due attention." Another M.D., under date of July 4th, says:—This case is one of sad distress to the family, and ought certainly to be provided for in our Asylums. From the tone of your former letter, I judged there was no use bothering you about her admittance when you were so overcrowded, but I trust now that my patience will be rewarded with a satisfactory reply."

I could easily fill several pages of your report with extracts from such appeals as these. Is it not clear, therefore, that we are not moving too soon in the matter of extending our institution?

As we look upon ourselves as being in a transitory state here, we expend as little as possible in improvements. So long as the buildings and surroundings are kept fairly passable and comfortably inhabitable, we are satisfied. Of course a certain amount of ordinary repairs has to be done. Some changes have been made in the laundry, which greatly facilitates the work in that department; a Cairns' Centrifugal Wringer has been put in, and we have just received a Smith's Metallic Washing Machine, which we will soon have in operation.

We continue to give employment to our inmates to as large a degree as is possible with our limited resources. Out of a total of 235, we have eighty-eight who are employed in some form or other the most of their time, making a percentage of thirty-seven—a very fair showing when we consider the large number of children under care. The only change in the nature of work done is in knitting. This year our females have made no less than 800 pairs of socks, stockings and mittens. This is not bad for untrained idiots, and it prompts one to ask, what would be the possibilities in the line of useful and profitable industry, if we had a thoroughly equipped training department in connection with this institution!

In the matter of amusements for our inmates, we have had nothing new during the year. The attendants and employees help them to pass their time as pleasantly as possible, and engage with them in simple games. Notwithstanding the complaint made by me last year, the residents of the town are as indifferent to our presence here as if we were 100 miles away. All the interest taken in us is confined to a few of the business men, who are making, or expect to make, some profit from our custom. Beyond this, we are absolutely ignored. This is not as it should be, and I venture to say such indifference cannot be found in any other locality on this continent, where a similar institution is situated.

It will be needless to say anything about new buildings, as the plans for such are in course of preparation at the present time, and I confidently look forward to their early construction.

I have the honour to be, Sir,

Your obedient servant,

A. H. Beaton,

Medical Superintendent.

ANNUAL STATISTICAL REPORT

Of the operations of the Asylum for Idiots, Orillia, for the year ending 30th September, 1884.

TABLE No. 1.

Shewing movements of patients in the Asylum for the official year ending 30th September, 1884.

——	Male.	Female.	Total.	Male.	Female.	Total.
Remaining October 1st, 1884	.....	.....	.....	122	109	231
Admitted during year:—						
By Lieutenant-Governor's warrant	2	1	3			
" medical certificate	7	5	12			
				9	6	15
Total number under treatment during year	.....	.....	.....	131	115	246
Discharges during year:—						
As recovered	.....	.....	.....			
" improved	1	.....	1			
" unimproved	.....	.....	.....			
Total number of discharges during year	1	.....	1			
Died	7	3	10			
Eloped	.....	.....	.....			
Transferred	.....	.....	.....	8	3	11
Remaining in Asylum, 30th September, 1884	.....	.....	.....	123	112	235
Total number admitted since opening of Asylum	.....	.....	.....	199	176	375
" discharged	15	8	23			
" died	59	56	115			
" eloped	1	.....	1			
" transferred	1	.....	1			
				76	64	140
" remaining, 30th September, 1884	.....	.....	.....	123	112	235
Number of applications on file, 30th September, 1884	85	66	151			

TABLE No. 2.

Shewing the maximum and minimum number of patients resident in the Asylum, the total number of days' stay of patients, and the daily average number of patients in the Asylum, from the 1st October, 1883, to 30th September, 1884.

	Male.	Female.	Total.
Maximum number of patients in residence (on the 31st of December, 1883.	124	112	236
Minimum " " (on the 1st of October, 1884....	122	109	231
Collective days' stay of all patients in residence during year.....	45060	40683	85743
Daily average population	123.45	111.19	234.64

	Admissions of Year.			Total Admissions since Opening.		
	Male.	Female.	Total.	Male.	Female.	Total.
SOCIAL STATE.						
Married.....	.....	.....	.....	.....	4	4
Widowed	.....	.....	.....	.....	.....	.....
Single.....	9	6	15	199	172	371
Not reported	.....	.....	.....	.....	.....	.....
Total	9	6	15	199	176	375
RELIGION.						
Presbyterians	2	1	3	37	27	64
Episcopalians	2	2	4	36	41	77
Methodists.....	1	1	2	43	47	90
Baptists.....	.....	1	1	3	8	11
Congregationalists	.....	.....	.....	.....	.....	.....
Roman Catholics.....	1	1	2	29	23	52
Mennonites	2	.....	2	5	3	8
Quakers.....	.....	.....	.....	2	1	3
Infidels	.....	.....	.....	.....	.....	.....
Other denominations.....	.....	.....	.....	4	2	6
Not reported.....	1	.....	1	40	24	64
Total	9	6	15	199	176	375
NATIONALITIES.						
English	1	.....	1	15	16	31
Irish	.....	.....	.....	21	17	38
Scotch	.....	.....	.....	18	9	27
Canadian	8	6	14	118	115	233
United States	.....	.....	.....	1	1	2
Other countries.....	.....	.....	.....	10	6	16
Unknown	.....	.....	.....	16	12	28
Total	9	6	15	199	176	375

TABLE No. 3.

Shewing the Counties from which Patients have been admitted up to 30th September, 1884.

COUNTIES.	Admitted during Year.			Total Admission.		
	Male.	Female.	Total.	Male.	Female.	Total.
Algoma District						
Brant				4	2	6
Bruce				4	6	10
Carleton				7	3	10
Dufferin						
Elgin				1	6	7
Essex				2	4	6
Frontenac		1	1	8	15	23
Grey				11	6	17
Haldimand	2		2	8	3	11
Halton				4	3	7
Hastings				1	4	5
Huron		1	1	10	7	17
Kent				3	6	9
Lambton				4	4	8
Lanark	1		1	5	2	7
Leeds and Grenville				7	1	8
Lennox and Addington	1		1	5	2	7
Lincoln				4	1	5
Middlesex				7	7	14
Muskoka District				2	2	4
Norfolk	1	1	2	6	4	10
Northumberland and Durham				8	8	16
Ontario				9	7	16
Oxford				4	4	8
Peel	1		1	2	4	6
Perth		1	1	5	3	8
Peterborough					2	2
Prescott and Russell						
Prince Edward				1	2	3
Renfrew					6	6
Simcoe	2	1	3	11	9	20
Stormont, Dundas and Glengarry				4	1	5
Victoria		1	1	5	4	9
Waterloo				5	4	9
Welland				1		1
Wellington				7	2	9
Wentworth	1		1	10	10	20
York				24	22	46
Not classed						
Total	9	6	15	199	176	375

TABLE No. 4.

Shewing the Counties from which warranted cases have been admitted up to 30th September, 1884.

COUNTIES.	Admitted During Year.			Total Admissions.		
	Male.	Female.	Total.	Male.	Female.	Total.
Algoma District						
Brant				1		1
Bruce				2	2	4
Carleton				2	3	5
Dufferin						
Elgin					4	4
Essex				1	2	3
Frontenac				7	9	16
Grey				5	3	8
Haldimand				1		1
Halton					1	1
Hastings					2	2
Huron				4	1	5
Kent					3	3
Lambton				1	1	2
Lanark	1		1	4	1	5
Leeds and Grenville				4	1	5
Lennox and Addington				2	2	4
Lincoln				2	1	3
Middlesex				3		3
Muskoka District				1		1
Norfolk	1	1	2	5	4	9
Northumberland and Durham				4	2	6
Ontario				3		3
Oxford				2	1	3
Peel				1	1	2
Perth				3	1	4
Peterborough						
Prescott and Russell						
Prince Edward						
Renfrew					4	4
Simcoe				2	3	5
Stormont, Dundas and Glengarry				3		3
Victoria				2		2
Waterloo				1		1
Welland						
Wellington				1		1
Wentworth				1	5	6
York				6	1	7
Not Classed						
Total admissions	2	1	3	74	58	132

TABLE No. 5.

Shewing the length of residence in the Asylum of those discharged during the year.

No.	Initials.	Sex.	When Admitted.	When Discharged.	Remarks.
296	A. C.....	M.....	21st September, 1882.....	6th September, 1884.....	Taken home by father

TABLE No. 6.

Shewing age, length of residence and proximate cause of death of those who died during the year ending 30th September, 1884.

No.	Initials.	Sex.	Age.	Date of Death.	Residence in Asylum.			Proximate cause of death.
					Years	Months.	Days.	
181	W. F.....	M.....	46	December 29, 1883.	5	8	11	Dysentery.
350	A. McC...	F.....	7	January 12, 1884...	...	9	.....	Erysipelas.
221	M. K.....	F.....	16	January 13, 1884...	3	11	28	Dysentery.
302	J. W. T...	M.....	44	February 10, 1884..	1	4	19	Intestinal Obstruction.
309	J. C.....	M.....	32	February 11, 1884..	1	4	20	Bilious Fever.
279	F. G	M.....	25	May 24, 1884	1	8	2	General Debility.
254	T. G	M.....	20	June 10, 1884.....	2	1	7	Ulceration of Bowels.
366	J. G.....	M. ...	34	July 22, 1884	.....	6	22	General Debility.
241	B. P.....	F.....	26	July 29, 1884	3	2	4	Heart Disease.
124	M. M.....	M.....	29	September 24, 1884.	7	8	.....	Heart Disease.

TABLE No. 7.

Shewing the nature of employment and the number of days' work performed by patients during the year.

NATURE OF EMPLOYMENT.	Number of Patients who Worked	Days Worked.		
		Male.	Female.	Total.
Carpenter's shop	1	210	.....	210
Engineer's Shop	1	312	.....	312
Wood Yard and Coal Shed	12	3744	.....	3744
Laundry	5	626	814	1500
Garden	3	450	.....	450
Grounds	1	100	.....	100
Stable	1	365	.....	365
Kitchen	5	730	1095	1825
Dining Rooms	9	626	2555	3181
Officers' Quarters	1	365	.....	365
Sewing Rooms	3	.....	939	939
Knitting	16	.....	5008	5008
Wards	23	5475	2920	8395
General	7	313	1878	2191
Total	88	13376	15269	28645

SEVENTEENTH ANNUAL REPORT

OF THE

INSPECTOR OF PRISONS AND PUBLIC CHARITIES

UPON THE

COMMON GAOLS,

PRISONS AND REFORMATORIES

OF THE

PROVINCE OF ONTARIO,

BEING FOR THE YEAR ENDING 30TH SEPTEMBER,

1884.

Printed by Order of the Legislative Assembly.

Toronto :
PRINTED BY GRIP PRINTING AND PUBLISHING CO., FRONT STREET,
1885.

OFFICE OF THE
INSPECTOR OF PRISONS AND PUBLIC CHARITIES, ONTARIO,
PARLIAMENT BUILDINGS, TORONTO, 31st December, 1884.

SIR,—I have the honour to transmit herewith, to be presented to His Honour, the Lieutenant-Governor, the Seventeenth Annual Report upon the Common Gaols, Prisons and Reformatories of the Province of Ontario, being for the official year ending on the 30th September, 1884.

I have the honour to be Sir,

Your most obedient servant.

R. CHRISTIE,
Inspector

The Honourable
ARTHUR STURGIS HARDY, Q.C., M.P.P.,
Secretary for the Province of Ontario,
Toronto.

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COMMON GAOLS, PRISONS AND REFORMATORIES.

SEVENTEENTH

ANNUAL REPORT

OF THE

Inspector of Prisons and Public Charities

FOR THE

PROVINCE OF ONTARIO.

PARLIAMENT BUILDINGS,
Toronto, November, 1884.

To the Honourable JOHN BEVERLEY ROBINSON, *Lieutenant-Governor of the Province of Ontario.*

MAY IT PLEASE YOUR HONOUR:—

Herewith, I beg to submit the Seventeenth Annual Report upon the Common Gaols, Prisons and Reformatories of the Province of Ontario, being for the official year ending 30th September, 1884.

I have the honour to be,

Your Honour's most obedient servant,

R. CHRISTIE,
Inspector.

COMMON GAOLS.

The first table which I present in this, the Seventeenth Annual Report upon the Gaols of the Province, comprises a summary of the commitments to the Gaols since the 1st October, 1868, divided into the four divisions of adult males, boys under 16 years old, adult females, and girls under 16 years of age. During the year which closed on the 30th September, 1884, the commitments under the four heads numbered respectively, 9,858, 458, 1,719, 46, making a total of 12,081 as the gaol population of the year. The table in question is annexed:—

—	Men over 16 years of age.	Boys under 16 years of age.	Women over 16 years of age.	Girls under 16 years of age.	Total.
Commitments for the year ending 30th Sept., 1869.....	3,599	294	1,680	82	5,655
" " " 1870.....	4,215	319	1,737	108	6,379
" " " 1871.....	4,586	329	1,642	58	6,615
" " " 1872.....	5,006	281	1,615	56	6,958
" " " 1873.....	5,745	323	1,735	74	7,877
" " " 1874.....	7,298	377	1,746	67	9,488
" " " 1875.....	8,048	389	1,566	70	10,073
" " " 1876.....	9,005	434	1,727	70	11,236
" " " 1877.....	11,053	542	1,824	62	13,481
" " " 1878.....	9,537	480	1,959	54	12,030
" " " 1879.....	8,995	416	1,756	53	11,220
" " " 1880.....	8,829	549	1,863	59	11,300
" " " 1881.....	7,007	468	1,681	73	9,229
" " " 1882.....	7,286	522	1,750	62	9,620
" " " 1883.....	7,858	423	1,551	48	9,880
" " " 1884.....	9,858	458	1,719	46	12,081

It is to be noted with regret that the commitments during the year under-review were greater in number than in any year since 1878, when they reached 13,481. As compared with the year ending 30th September, 1883, the commitments of adult men have increased by 2,000, or 25.45 per cent.; of boys, by 35, or 8.27 per cent.; of adult women, 168, or 10.83 per cent., and the number of young girls committed was two less. The total increase is 2,201, or 22.27 per cent.

The table which follows shews the number of commitments to each gaol in the past and preceding years, and the increase or decrease in the commitments of last year as compared with the previous one:—

NAME OF GAOL.	Number of prisoners committed in the year ended 30th Sept., 1884.			Number of prisoners committed in the year ended 30th Sept., 1883.			Increase.			Decrease.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Barrie	316	32	348	226	29	255	90	3	93			
Berlin	58	5	63	84	12	96				26	7	33
Belleville	151	27	178	151	27	178						
Brantford	144	31	175	173	43	216				29	12	41
Brampton	143	8	151	103	6	109	40	2	42			
Brockville	210	35	245	172	43	215	38		38		8	8
Cayuga	55	13	68	39	3	42	16	10	26			
Cornwall	61	7	68	41	12	53	20		20		5	5
Cobourg	119	8	127	107	14	121	12		12		6	6
Chatham	133	20	153	109	8	117	24	12	36			
Goderich	77	13	90	46	12	58	31	1	32			
Guelph	131	16	147	164	23	187				33	7	40
Hamilton	792	162	954	761	137	898	31	25	56			
Kingston	140	38	178	125	28	153	15	10	25			
London	849	155	1004	676	130	806	173	25	198			
Lindsay	69	6	75	35	4	39	34	2	36			
L'Orignal	21	2	23	21	2	23						
Milton	133	7	140	92	5	97	41	2	43			
Napanee	58	14	72	54	10	64	4	4	8			
Ottawa	554	159	713	530	180	710	24		24		21	21
Owen Sound	175	25	200	122	8	130	53	17	70			
Orangeville	48	8	56	34	9	43	14		14		1	1
Perth	58	12	70	60	8	68		4	4	2		2
Picton	63	2	65	87	2	89				24		24
Pembroke	107	6	113	73	5	78	34	1	35			
Peterborough	136	12	148	172	9	181		3	3	36		36
Port Arthur	828	6	834	407	5	412	421	1	422			
Rat Portage	221	15	236				221	15	236			
Simcoe	74	7	81	100	8	108				26	1	27
St. Catharines	85	12	97	118	14	132				33	2	35
Sarnia	279	16	295	207	20	227	72		72		4	4
Stratford	132	23	155	121	11	132	11	12	23			
Sandwich	197	61	258	211	51	262		10	10	14		14
St. Thomas	235	32	267	182	11	193	53	21	74			
Sault Ste. Marie	34	3	37	23	1	24	11	2	13			
Toronto	2538	713	3251	1982	651	2633	556	62	618			
Walkerton	49	9	58	40	7	47	9	2	11			
Woodstock	319	22	341	176	22	198	143		143			
Welland	288	12	300	225	10	235	63	2	65			
Whitby	95	6	101	105	11	116				10	5	15
Lock-ups												
Bracebridge	22	1	23	22	1	23						
Gore Bay	1		1				1		1			
Little Current	2		2	19	1	20				17	1	18
Manitowaning	18		18	19	2	21				1	2	3
Mattawa	41	2	43	37		37	4	2	6			
Parry Sound	20	2	22	23	4	27				3	2	5
Silver Islet												
Minden				6		6				6		6
Haliburton	1		1	1		1						
Sudbury	36		36				36		36			
Totals	10316	1765	12081	8281	1599	9880	2295	250	2545	260	84	344

The largest increase was at Toronto. The commitments to the Gaol there number 3,251, against 2,633, an increase of 618. The next largest increase is at Port Arthur, the numbers being 834 against 412, an increase of 422. Then comes London, shewing an increase of 198; then Woodstock, with an increase of 143. The other principal increases are, Barrie, 93; St. Thomas, 74: Owen Sound, 70; Sarnia, 68; Welland, 65; Hamilton, 56. The Gaols shewing the largest decreases

are those at Brantford, 41; Guelph, 40; St. Catharines, 35; Berlin, 33; Peterboro', 33, and Simcoe, 27. It will be noticed that statistics relating to the Gaol at Rat Portage are, for the first time, included in this table, the commitment to it numbering 236.

The annexed tables shew the number of commitments since 1876, for various crimes and offences, classified in five divisions:—

1. CRIMES AGAINST THE PERSON.

	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.
Assault, common	743	641	724	549	623	556	576	572	586
Assault, felonious	124	134	98	125	85	88	124	91	146
Cutting and wounding, stabbing and shooting with intent	127	92	71	62	63	40	73	52	50
Rape, and assault with intent	48	39	37	45	44	36	56	46	44
Murder	30	39	24	25	42	23	29	30	45
Manslaughter	12	7	6	10	7	7	9	12	20
Attempt at suicide	1	7	11	6	9	8	10	8	10
Miscellaneous	43	31	38	25	31	95	43	48	32
	1128	990	1009	847	904	853	920	859	933

2. CRIMES AGAINST PROPERTY.

Arson and incendiarism	45	35	47	49	31	22	23	47	24
Burglary	63	58	89	103	93	44	63	61	44
Counterfeiting and passing counterfeit money	21	23	10	19	15	15	11	1	5
Destroying and injuring property	104	115	138	126	130	67	138	80	122
Embezzlement	21	24	29	28	23	17	19	25	36
Forgery	46	31	48	64	50	30	34	35	30
Fraud, and obtaining money or goods under false pretences	140	137	151	131	101	82	106	106	113
Horse, cattle and sheep stealing	75	84	89	86	70	54	73	49	63
Housebreaking and robbery	62	43	57	102	103	80	67	61	156
Larceny	1764	2070	1818	1626	1669	1363	1401	1278	1742
Receiving stolen goods	54	38	64	38	42	26	45	33	34
Trespass	49	73	103	122	123	112	110	120	238
Miscellaneous	50	42	43	29	73	78	85	93	69
	2494	2773	2686	2523	2523	1990	2175	1989	2676

3. CRIMES AGAINST PUBLIC MORALS AND DECENCY.

Bigamy	12	12	9	14	5	6	10	6	7
Inmates and frequenters of houses of ill-fame	129	137	197	189	236	171	194	133	183
Keeping houses of ill-fame	81	89	117	92	134	102	137	130	106
Perjury	12	32	25	25	27	15	15	8	12
Seduction	3	2	2	2	.....	.....	.....	1	.....
Indecent assault and exposure	45	27	40	41	40	38	32	45	48
Miscellaneous	49	116	129	86	50	67	78	13	62
	331	415	519	449	492	399	466	336	418

4. OFFENCES AGAINST PUBLIC ORDER AND PEACE.

Abusive and obscene language	71	73	101	72	95	65	55	87	76
Breaches of peace, breaches of by-laws, escapes from and obstructing constables	116	90	143	130	109	83	91	137	156
Carrying unlawful weapons	13	25	37	27	34	43	42	35	49
Deserting employment	45	21	27	10	27	18	41	30	8
Drunk and disorderly	3868	4032	3785	3581	3795	3328	3497	3895	4650
Selling liquor without license, and selling or giving it to Indians	53	160	153	122	115	83	70	53	71
Threatening and seditious language	83	48	36	48	48	57	26	50	22
Vagrancy	2128	3888	2524	2536	2210	1580	1449	1554	2130
Miscellaneous	156	217	260	174	207	131	120	227	179
	6533	8544	7066	6700	6640	5388	5391	6068	7341

5. OTHER CAUSES FOR WHICH PERSONS WERE DETAINED AS PRISONERS.

	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.
Contempt of Court	90	136	133	149	180	124	76	97	107
Debtors	72	60	67	72	86	46	56	64	53
Detained as witnesses	29	17	31	12	18	17	16	21	19
Lunatics and persons dangerous to be at large	348	336	307	339	346	338	432	345	433
Non-payment of fines and costs	42	41	39	.....	.....	.....	.....	.....	.....
Want of sureties to keep the peace	169	159	173	129	111	74	88	101	101
	750	749	750	701	741	599	688	628	713
Total number of persons committed for the respective years	11236	13481	12030	11220	11300	9229	9620	9880	12081

In each of the five divisions there is an increase, ranging from 74 in the first to 1,273 in the fourth. The commitments for drunkenness have again increased in number, but there is a decrease of one per cent. in their ratio to the total commitments. The increase commitments for this offence, and in those for larceny and vagrancy, constitute the largest portion of the total increase. Other noticeable increases are in the commitments for murder, manslaughter, assault and housebreaking and robbery.

The number of persons committed as lunatics and idiots was 433, an increase of 88 as compared with the year 1883, and of 1 as compared with 1882.

The disposition made of the 12,081 persons committed to the gaols of the Province is set forth in the table printed below :—

Acquitted on being brought to trial, and discharged	3146
Discharged without trial by order of judges, magistrates, and courts, including remand cases	912
Detained for want of sureties to keep the peace	102
Detained as witnesses	27
Detained as fraudulent debtors	60
Detained as lunatics, idiots, and persons unsafe to be at large	418
Died before trial	12
Detained by civil processes other than above	37
Waiting trial and otherwise detained on the 30th September, 1884	107
Found guilty and sentenced	7260
Total number of commitments	12081

The places of confinement, to which the 7260 persons, who were found guilty' were sentenced, are set forth in the following statement, and similar information is given as regards the sentenced prisoners of the previous years :—

	1883.	1884.
Sentenced to the Kingston Penitentiary	105	133
Do to the Reformatory for Boys	60	82
Do direct to Central Prison	282	373
Do to the Common Gaols and subsequently transferred to the Central Prison	372	337
Do direct to the Reformatory for Females	90	102
Do to Common Gaols and subsequently transferred to the Reformatory for Females	30	60

Sentenced to the Common Gaols and there detained until expiration of sentence	5361	6173
Total	6300	7260

The increase in the number of sentences to the Penitentiary, Central Prison and Reformatories for Females and Boys will be observed.

The number of persons committed for crimes and offences, for which convictions could be obtained, numbered 11,368. Of these, 7,260 were found guilty and sentenced. The summaries given below shew the nature of the offences committed by these convicted prisoners:—

1. *Crimes against the Person.*

	Total commitments for the year.	Number found guilty and sentenced.
Assault, common	586	355
Assault, felonious	146	78
Cutting and wounding, stabbing, and shooting with intent	50	29
Rape, and assault, with intent	44	14
Murder	45	3
Manslaughter	20	8
Attempt at suicide	10	4
Miscellaneous	32	22
	933	513

2. *Crimes against Property.*

Arson and incendiarism	24	8
Burglary	44	22
Counterfeiting and passing counterfeit money	5	4
Destroying and injuring property	122	85
Embezzlement	36	19
Forgery	30	15
Fraud, and obtaining money or goods under false pretences	113	32
Horse, cattle and sheep stealing	63	39
Housebreaking and robbery	156	78
Larceny	1742	1102
Receiving stolen goods	34	15
Trespass	238	204
Miscellaneous	69	62
	2676	1685

3. *Crimes against Public Morals and Decency.*

Bigamy	7	4
Inmates and frequenters of houses of ill-fame	183	103
Keeping houses of ill-fame	106	72

Perjury	12	4
Indecent assault and exposure	48	28
Miscellaneous	62	40
	418	251

4. *Offences against Public Order and Peace.*

Abusive and obscene language	76	61
Breaches of peace, breaches of by-laws, escapes from and obstructing constables	156	110
Carrying unlawful weapons	49	28
Deserting employment	8	4
Drunk and disorderly	4650	2971
Selling liquor without a license, and selling or giving it to Indians	71	43
Threatening and seditious language	22	4
Vagrancy	2130	1431
Miscellaneous	179	159
	7341	4811
Total	11368	7260

Tables showing the periods of sentence passed on the convicted prisoners and the sex, nationalities, religious denominations, social conditions, habits, etc. of the total number of prisoners are here annexed :—

Periods of Sentence.

For periods under thirty days	2954
For thirty days, and up to sixty days, or two months, not including the last term	2302
For sixty days, or two months	573
Over two months to three months	343
Over three months to four months	160
Over four months to five months	53
Over five months to six months	390
Over six months to nine	80
Over nine months and up to one year inclusive	108
Over one year and up to two years	79
Over two years and up to three years in the Penitentiary	70
Over three years in the Penitentiary	63
For periods of any length in the Reformatory for Boys	82
Sentenced to death	3
	7260

Sex.

	1883.	1884.
Male	8281	10316
Female	1599	1765
	9880	12081

Nationalities.

Born in Canada	4448	5267
Born in England	1557	2020
Born in Ireland	2336	2840
Born in Scotland	585	686
Born in the United States	706	896
Born in other Countries	248	372
	9880	12081

Religious Denominations.

Roman Catholic	3759	4722
Church of England	3154	3801
Presbyterian	1280	1470
Methodist	1130	1390
Other Denominations	557	698
	9880	12081

Social Condition.

Married	3685	4066
Unmarried	6185	8015
	9880	12081

Habits.

Temperate	2378	3080
Intemperate	7502	9001
	9880	12081

Educational Status.

Could read and write	7398	9395
Could neither read nor write	2482	2686
	9880	12081

The number of prisoners confined in the various custodal institutions of the Province at the close of the past official year, and of the year preceding, is exhibited in the following summary :—

	1883.	1884.
In the Common Goals	523	617
In the Central Prison, Toronto	273	335
In the Reformatory for Boys, Penetanguishene	245	242
In the Reformatory for Females, Toronto	138	163
In the Dominion Penitentiary, Kingston	505	472
	1684	1829

Gaol Expenditures.

The usual table is appended shewing the cost of maintaining the common gaols during the past, and six preceding years, under the headings of rations, clothing, fuel, salaries and wages, and repairs:—

YEAR.	Total number of prisoners in custody each year.	Cost of rations, clothing, fuel, etc. each year.	Cost of salaries and wages of gaol officials each year.	Cost of repairs.	Total goal expenditure.
		$ c.	$ c.	$ c.	$ c.
1878	12,030	60,217 83	63,591 11	7,307 66	131,116 60
1879	11,220	52,856 24	63,914 40	5,583 44	122,354 08
1880	11,300	49,037 14	64,084 34	3,504 96	116,626 44
1881	9,229	45,001 05	63,502 00	3,412 10	111,915 15
1882	9,620	44,768 92	63,794 30	4,665 53	113,228 75
1883	9,880	44,783 50	64,935 96	4,706 20	114,425 66
1884	12,081	51,909 89	68,446 88	7,125 50	127,482 27

As is to be expected, in view of the largely increased prison population, the expenditure incurred in maintaining the gaols was considerably higher than during the past few years. It was not so large though, as in the year 1878, when there were fewer prisoners in custody by fifty-one. Reference to Table No. 13 shews that the average annual cost per prisoner throughout the gaols of the Province was $10.55, being $1.11 less than in the year ending 30th September, 1883, proving that although the gross expenditure this year was larger, it was not owing to the lack of economy and proper management, but to causes beyond the control of those having supervision and charge of the gaols.

A summary is given below shewing the days stay respectively of those prisoners whose maintenance was chargeable to the Province and of those who were a charge on the Municipalities:—

3562	Criminal Prisoners remained in Goal	68207 days.
8519	Municipal " " "	181312 "
12081	prisoners of both classes remained in gaol....	249519 days.

In the preceding year the aggregate stay of all the prisoners was 201,089 days, shewing an increase in the year now being reported upon of 48,430 days.

Deaths.

The deaths during the year numbered thirty-nine, being twenty less than in the preceding year. Inquests were held in the different cases, and no special circumstances were brought to light at any of them.

ESCAPES.

Twenty-two prisoners escaped from custody, of whom twelve were not recaptured.

A prisoner named Gradwell who was on remand charged with larceny, escaped from the *Hamilton* Gaol on the 20th August. He succeeded in getting between the bars of the window of the ward into the yard, and scaled the wall thereof. Dr. O'Reilly, on examination, found that the window bars in this ward were wider apart than in the others. He requested the County Council to have the defect remedied.

From the *Orangeville* Gaol two escapes took place during the year. The first occurred on the 12th May, and the circumstances connected with it were as follows:—McPhee, the prisoner who escaped, was with two others being taken by the gaoler to work on the grounds outside of the gaol. The gaoler was called away to attend the surgeon, who had just arrived. He went back to the gaol leaving the prisoners to go on, but on reaching the gaol he sent his son to look after the prisoners. When he reached the place they were to work, McPhee had gone. The gaoler was to blame for leaving the prisoners unwatched, even for the shortest space of time.

The second escape occurred on the 23rd July. The prisoner, William Wallace, who escaped, was under sentence to the Central Prison. The gaoler received a telegram from the prison bailiff to have the prisoner ready to leave for Toronto by a certain train. This was done, and the prisoner, dressed in his own clothes, was left in a ward by himself, the door of which opening into the yard was left unlocked. The prisoner, of course, availed himself of this opportunity of escaping. He was, however, recaptured the same evening. His escape was due to carelessness on the part of the gaol officials, in not making sure that the door in question was locked.

On the 10th November, 1883, an old vagrant made his escape from the *Perth* Gaol. He had been allowed to work about the Court House unwatched, as it was thought to be safe to do so. The man's age, and the nature of his offence, was put forward by the gaol officials as an excuse for the infraction of the gaol rules. I replied to it through the Sheriff, as follows:—"The escape appears to have been due to the improper practice of putting the prisoner at work in the Court House and not keeping him under constant supervision, thus violating one of the rules laid down for the proper government of the gaols of the province. If the turnkey violated the rule on his own responsibility, he is to blame; if he did it with the gaoler's knowledge and sanction, then that official is to blame. The gaol rules should be as much adhered to in the cases of prisoners sentenced for vagrancy as for anything else. Once a system of discrimination creeps in, then a general laxity of discipline too often follows, which leads to the escape of important prisoners. You will please instruct your gaol officials that no prisoner is to be allowed in the yards or Court House, except when in the immediate charge of a gaol officer." I place this instruction on record here, so that the officials of the gaols throughout the province may take note of it.

A man named Jules Houles, under sentence for three months, escaped from the *Pembroke* Gaol on the 25th June, under the following circumstances: Houles was acting as cook, and on the day in question he found the kitchen gate open, also the door from the inner yard to the work yard. At one side of the yard fence he found an opening in the ground, which enabled him to get under the fence As soon as he had done this, he was seen by the deputy Sheriff and recaptured after a chase and some resistance. The prisoner was brought before the County Judge and sentenced to an additional term of three months, and was

subsequently removed to the Central Prison. The turnkey who was to blame for leaving the gates open, was sharply reprimanded for his carelessness.

Three prisoners escaped from the *Port Arthur* Gaol, two of whom were recaptured. The escapes took place at different times, when prisoners were at work on the gaol grounds. In one instance, a turnkey was guilty of such carelessness that he was dismissed.

From the *Sandwich* Gaol three prisoners escaped on the 22nd November, 1883, viz., Henry Greenwood, under sentence of death for murder; Luke Phipps, waiting trial for murder; and Frederick Steers, under sentence for stealing Phipps only was recaptured, and was eventually tried for the crime he was charged with, and hanged.

Dr. O'Reilly held an enquiry into the circumstances connected with the escape of these prisoners. The following extracts from his report to the Government, will show the manner in which the escape was effected:—

"I examined under oath the Sheriff, the gaoler, the matron, the two turnkeys, and several of the prisoners, as well as the chief constable of the Town of Windsor, and a full copy of the evidence taken is submitted herewith.

"Since my return to Toronto I have had interviews with a female prisoner at the Mercer Reformatory, and a male prisoner at the Central Prison, both of whom were in gaol a part of the time during which the escaped prisoners were there, and through whom further light has been thrown on the subject.

"From the evidence given and the information elicited from the other sources mentioned, I find—

"That the prisoners escaped from the corridor in which they were confined by cutting away one of the iron bars in a window, getting through the opening made thereby into the yard, and then scaling the wall of the gaol-yard with the aid of a bench, which they had taken from the corridor with them, having previously knocked off the legs so as to enable them to get it through the window;

"That the tools used for cutting the bars of the prison were procured from without in a manner which could not reasonably be expected to escape the vigilance of the gaol officials;

"That the escape was rendered possible by the laxity of the guard which was kept over the prisoners; and that if the proper precautions had been taken, the cutting of the bars and escaping from the prison in the manner it was done would not have been possible;

"That, although there was an extra turnkey employed at the gaol by special authority given by me to the Sheriff at his request, the Sheriff had given no orders as to the duties of the extra guard, or how he was to be used; and that, although this guard slept in the outer corridor during the night when the prisoners were locked up in their cells, in the daytime, when they were allowed into the corridor, there was no continuous guard kept over them;

That, when the escape was discovered, the gaoler took as prompt measures for the recapture of the prisoners as were within his reach, without leaving the gaol sufficiently guarded. He also caused notice to be given to the Sheriff at the earliest possible moment."

On the 16th March, 1884, two other prisoners, named Kennedy and O'Callaghan, made their escape from this gaol, after killing the gaoler and severely injuring a turnkey. Kennedy was recaptured a few hours after the escape took place, but O'Callaghan is still at large, A copy of Dr. O'Reilly's report upon the matter is annexed:—

"It appears from the evidence that Leech, the gaoler, and Davis, the second turnkey (the first turnkey being absent at church), in the performance of their usual morning duties, had occasion to open the iron wicket of the ward in which

O'Callaghan was confined with some other prisoners. The moment the wicket was opened, O'Callaghan made a rush upon the two officers, neither of whom were very strong, and after a struggle of short duration, he secured the key of the wicket of the opposite ward in which was Kennedy and other prisoners, and managed to insert the key into the lock, the fight still going on. Kennedy, upon seeing this, reached through the bars, unlocked the door, and joined O'Callaghan in the struggle with the officers, having possessed himself of an empty bottle, which he used as a weapon. Five shots were fired while the struggle was in progress, two of them, as far as could be learned, by the gaoler, and three by O'Callaghan, who appears to have had a pistol in his possession, but how he came by it could not be ascertained. When the noise was heard and the alarm given by the matron, the gaoler was found dead upon the floor, shot in two places, and the turnkey lying insensible. The two prisoners mentioned had meantime made their escape by the front door and through the Court House into the street. None of the other prisoners seem to have taken any part in the affair, either to assist the officers or prisoners; nor does it appear that any of them attempted to escape. The only evidence, however, which is available on these points is that of the prisoners themselves, with the exception of Davis, who, from the circumstances of his being very severely hurt in the beginning of the struggle, may not have the clearest recollection of all the details.

"At the time of this unfortunate occurrence, the present Sheriff had been but a few days in office (his predecessor having been dismissed), and therefore he had not had time to re-organize the gaol staff. The two turnkeys, whose discharge I had recommended, were still the only turnkeys in the gaol, and the staff was consequently the same as during the incumbency of the former sheriff.

"The gaoler had held his position for some twenty-four years, and made for himself a reputation as a most painstaking and zealous officer, and of late years (as I am informed) had been a total abstainer from intoxicating liquor. He was not, however, a strong man physically, though of indomitable courage, the latter quality sometimes leading him to underrate danger, and he was no match, in a hand to hand struggle, for such desperate men as he had to deal with on this occasion. From the evidence, I judge that his only fault (if fault there were) in his last struggle for life was in deferring too long the use of his pistol. The turnkey, Davis, is a man who ought never to have been appointed to such a position. He is of excellent character, I believe, but entirely, unfit physically for such a post. There is no evidence to shew, however, that he did not, to the full extent of his ability, do his duty on this trying occasion.

"The gaoler lost his life through the mistake he made (and one which I am afraid is not uncommon) of taking the key of the outer door of the gaol into the corridor with him. If it had not been known to the prisoners that such was his practice, and that by overpowering him they would secure the opening of the outer door, the attempt never would have been made."

From the *St. Thomas* Gaol two escapes occurred. The first took place on the 23rd November, 1883, when a short date prisoner, named McIntyre, escaped. He had been taken by a turnkey into the Court House to sweep the rooms, light fires, etc. The turnkey did his duty of watching so badly, that the prisoner took advantage of this, and walked out of the Court House door. The turnkey was dismissed.

The other prisoner, Adams, escaped on the 6th January, 1884. He, with others, was employed in wheeling fuel into the Court House, and taking it up to the second story of the building. The work was being supervised by two turnkeys, at different points, one being posted by the stairway in the Court House. It was not supposed that any of the prisoners, all being under short sentences, would

attempt to escape by jumping out of the Court House windows, the only unguarded portion. However, this was what Adams did, as he dropped from a second storey window to the ground and made off. He was recaptured in a few days. The turnkeys, in this instance, should have made such arrangements as would have enabled them to keep the prisoners under personal supervision the whole time.

One escape occurred from the *Toronto* Gaol. The prisoner who escaped was one of a gang of short date prisoners, at work in the gaol grounds. He told the turnkey he wanted to go to the closet, and attention being then taken from him he made a run for his liberty, and was not recaptured for several days. I instructed the gaoler to warn the turnkeys to be more on their guard when taking prisoners to work outside the gael.

A prisoner named Andrew Wilson escaped from the *Woodstock* Gaol on the 19th instant. The turnkey took him into the stable, outside of the gaol wall, to attend to the horse and cow there. The turnkey did not go inside the stable with the prisoner, who at once made for the back door, which he opened, and thus escaped into the public street. The turnkey followed him almost at once, but the prisoner was too quick, and was not recaptured. Dr. O'Reilly gave orders to the gaoler not to allow young or active prisoners to be taken outside the gaol walls by the turnkey, as, although a most efficient officer in all other respects, he is not a sufficiently active man to manage such cases.

From the *Welland* Gaol two prisoners escaped at different times, but both were recaptured.

The first attempt was made by a prisoner named White, on the 21st June. He was acting as cook, and was improperly allowed the run of the yard as well as thekitchen. While the gaol officers were at dinner he climbed over the woodshed to the women's yard, and got a clothes line. To this he attached a meat hook, and with this apparatus reached the top of the wall dividing the yards from the public streets, and by its means he also lowered himself down to the ground. He was arrested in Buffalo a few days after.

The other escape was made by a prisoner named Westfield, who was taken out one morning by the turnkey to get a pail of water from the yard. They had to go through the office, and just as they got outside the door, the prisoner dropped the pail, ran through the Court House, the turnkey close after him, and dashed across the street into the yard of a hotel, the fence of which he jumped. On reaching the ground he fell, and the turnkey then captured and brought him back to gaol.

Gaol Staff.

The principal changes in the Gaol Staff were as follows :—

Peterboro Gaol—Mr. Henderson Nesbitt, formerly turnkey, was appointed gaoler, *vice* Mr. McWilliams, deceased.

Sandwich Gaol—Mr. Leech, who was killed by an escaping prisoner, was succeeded by Mr. Wm. James Sparks.

Welland Gaol—Mr. John Coulson appointed gaoler, *vice* Mr. Baxter, dismissed.

Statistical Tables.

Following this portion of the report will be found the tables named in the list given hereunder :—

Table No. 2, shewing the total number of prisoners in the several Gaols on the 30th September, 1884, and the nature of their imprisonment.

Table No. 3, shewing the number of prisoners over and under 16 years of age, the number of re-committals, the number of persons acquitted on being brought to trial, and the number of persons committed under civil processes.

Table No. 4, shewing the offences for which prisoners were *committed.*

Table No. 5, shewing the total number of prisoners, male and female, *committed* under each offence, during the year.

Table No. 6, shewing the number of prisoners, male and female, *sentenced* during the year, and a comparison of the same with the preceding year.

Table No. 7, shewing the number of prisoners upon whom sentence was passed, the nature and periods of the sentences, and the operation of the County Judges' Criminal Courts.

Table No. 8, shewing the offences for which prisoners were *sentenced.*

Table No. 9, shewing the total number of prisoners, male and female, *sentenced* under each offence.

Table No. 10, shewing the nationalities, religious denominations, social state, etc., of the prisoners committed.

Table No. 11, shewing the occupations, trades, or callings of the prisoners committed during the year.

Table No. 12, shewing the number of escapes and deaths, the revenue derived from prison labour, the cost of diet, the accommodation of the Gaols, and the highest and lowest number of prisoners in custody in each Gaol during the year.

Table No. 13, shewing how the prisoners committed during the year were maintained, the cost thereof, and the salaries of officials.

Table No. 14, shewing the daily cost per prisoner in each of the Gaols of the Province, for the year ending 30th September, 1884.

Following these tables are the separate reports upon each of the Common Gaols:—

TABLE NO. 2.

Shewing the total number of prisoners who were in the several gaols of the Province on the evening of 30th September, 1884, and the nature of their imprisonment.

NAME OF GOAL.	Classification.				Nature of Imprisonment.						Total number of persons who remained in custody on 30th September, 1884.
	Men.	Women.	Boys under 16 years.	Girls under 16 years.	Waiting trial.	Under sentence for periods of two months and under.	Under sentence for periods over two months.	In default of sureties to keep the peace.	Insane, idiotic or imbecile persons.	Otherwise detained.	
Barrie	23	5	.....	.....	4	7	6	.....	5	6	28
Berlin	3	.....	.....	.....	.....	2	.....	.....	.....	1	3
Belleville	11	4	1	.....	6	5	1	1	3	.....	16
Brantford	10	3	.....	.....	.....	5	7	.....	1	.....	13
Brampton	3	.....	1	.....	.....	.....	3	.....	1	.....	4
Brockville	14	5	.....	.....	2	5	9	.....	3	.....	19
Cayuga	3	2	.....	.....	.....	2	1	.....	.....	2	5
Cornwall	6	1	.....	.....	5	.....	.....	.....	2	.....	7
Cobourg	13	.....	.....	.....	4	6	3	.....	.....	.....	13
Chatham	9	1	.....	1	2	6	3	.....	.....	.....	11
Goderich	9	5	.....	.....	2	1	7	.....	4	.....	14
Guelph	3	1	.....	.....	.....	2	1	.....	1	.....	4
Hamilton	15	7	.....	.....	2	17	.....	.....	2	1	22
Kingston	8	9	.....	.....	.....	10	5	.....	2	.....	17
London	39	11	3	.....	18	25	4	2	4	.....	53
Lindsay	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
L'Orignal	1	.....	.....	.....	1	.....	.....	.....	.....	.....	1
Milton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Napanee	1	1	.....	1	1	1	1	.....	.....	.....	3
Ottawa	35	.....	1	.....	10	8	15	.....	3	.....	36
Owen Sound	12	3	1	.....	6	4	4	1	1	.....	16
Orangeville	10	4	.....	.....	.....	1	9	.....	2	2	14
Perth	5	3	.....	.....	.....	2	5	.....	.....	1	8
Picton	1	...	.....	.....	.....	1	.....	.....	.....	.....	1
Pembroke	8	1	3	.....	3	1	8	.....	.....	.....	12
Peterboro	10	2	.....	1	2	2	6	.....	3	.....	13
Port Arthur	12	.....	.....	.....	5	4	2	.....	.....	1	12
Rat Portage	3	.....	.....	.....	.....	.....	2	.....	.....	1	3
Simcoe	2	2	.....	.....	1	.....	1	.....	2	.....	4
St. Catharines	7	1	.....	.....	.....	2	1	1	4	.....	8
Sarnia	13	.....	.....	.....	1	9	.....	1	2	.....	13
Stratford	10	.....	.....	.....	2	4	1	1	2	.....	10
Sandwich	7	2	1	.....	1	6	1	.....	2	.....	10
St. Thomas	11	4	.....	.....	3	3	4	1	2	2	15
Sault Ste. Marie	4	.....	.....	.....	.....	.....	.....	.....	.....	4	4
Toronto	105	62	1	.....	16	115	12	.....	20	5	168
Walkerton	4	1	.....	.....	1	3	.....	.....	.....	1	5
Woodstock	7	6	1	.....	.....	5	5	.....	4	.....	14
Welland	8	1	.....	.....	2	2	4	.....	1	.....	9
Whitby	7	1	.....	1	7	1	1	.....	.....	.....	9
Lock-ups—											
Bracebridge	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gore Bay	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Current	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manitowaning	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mattawa	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Parry Sound	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Silver Islet	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Minden	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Haliburton	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals	452	148	13	4	107	267	132	8	76	27	617

TABLE

Shewing the number of persons *committed*, the number over and under 16 the peace, number of unsound mind, number acquitted on number sentenced, and number *com-*

NAME OF GAOL.	Total number *committed* during the year.			Number under 16 years of age.			Number over 16 years of age.			For the first time.	For the second time.	For the third time.
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.			
Barrie	316	32	348	6	5	11	310	27	337	293	37	8
Berlin	58	5	63	1	.....	1	57	5	62	50	6	4
Belleville	151	27	178	3	.....	3	148	27	175	134	14	17
Brantford	144	31	175	9	1	10	135	30	165	85	24	16
Brampton	143	8	151	2	.....	2	141	8	149	92	30	17
Brockville	210	35	245	2	.....	2	208	35	243	126	53	11
Cayuga	55	13	68	1	.....	1	54	13	67	41	10	6
Cornwall	61	7	68	4	.....	4	57	7	64	54	10	3
Cobourg	119	8	127	8	.....	8	111	8	119	97	17	4
Chatham	133	20	153	9	3	12	124	17	141	144	17	2
Goderich	77	13	90	5	1	6	72	12	84	56	10	5
Guelph	131	16	147	12	.....	12	119	16	135	124	16	3
Hamilton	792	162	954	57	5	62	735	157	892	430	156	70
Kingston	140	38	178	5	3	8	135	35	170	150	25	2
London	849	155	1004	56	.....	56	793	155	948	622	184	90
Lindsay	69	6	75	.....	.....	.....	69	6	75	69	3	3
L'Orignal	21	2	23	1	.....	1	20	2	22	19	4	.....
Milton	133	7	140	.....	.....	.....	133	7	140	123	15	2
Napanee	58	14	72	.....	2	2	58	12	70	46	16	2
Ottawa	554	159	713	42	3	45	512	156	668	616	63	20
Owen Sound	175	25	200	2	2	4	173	23	196	128	35	14
Orangeville	48	8	56	.....	.....	.....	48	8	56	40	9	3
Perth	58	12	70	2	1	3	56	11	67	46	12	2
Picton	63	2	65	1	.....	1	62	2	64	37	11	4
Pembroke	107	6	113	11	.....	11	96	6	102	70	24	4
Peterboro	136	12	148	1	3	4	135	9	144	100	17	11
Port Arthur	828	6	834	5	.....	5	823	6	829	801	26	7
Rat Portage	221	15	236	.....	.....	.....	221	15	236	210	15	5
Simcoe	74	7	81	2	.....	2	72	7	79	52	20	5
St. Catharines	85	12	97	4	.....	4	81	12	93	90	6	1
Sarnia	279	16	295	6	1	7	273	15	288	274	9	6
Stratford	132	23	155	5	1	6	127	22	149	101	30	9
Sandwich	197	61	258	4	.....	4	193	61	254	213	30	11
St. Thomas	235	32	267	17	2	19	218	30	248	171	53	19
Sault Ste. Marie	34	3	37	.....	3	3	34	.....	34	36	1	.....
Toronto	2538	713	3251	149	5	154	2389	708	3097	1698	704	485
Walkerton	49	9	58	2	1	3	47	8	55	51	5	1
Woodstock	319	22	341	8	3	11	311	19	320	212	63	25
Welland	288	12	300	8	.....	8	280	12	292	184	67	18
Whitby	95	6	101	6	1	7	89	5	94	64	16	5
Lock-ups—												
Bracebridge	22	1	23	.....	.....	.....	22	1	23	22	.....	.....
Gore Bay	1	.....	1	.....	.....	.....	1	.....	1	1	.....	.....
Little Current	2	.....	2	.....	.....	.....	2	.....	2	1	1	.....
Manitowaning	18	.....	18	.....	.....	.....	18	.....	18	15	2	1
Mattawa	41	2	43	.....	.....	.....	41	2	43	42	1	.....
Parry Sound	20	2	22	2	.....	2	18	2	20	20	2	.....
Haliburton	1	.....	1	.....	.....	.....	.....	.....	1	1	.....	.....
Sudbury	36	.....	36	.....	.....	.....	36	.....	36	36	.....	.....
Totals	10316	1765	12081	458	46	504	9858	1719	11577	8087	1859	921

No. 3.

years of age, the number of recommitals, the number for want of securities to keep trial, number discharged without trial, number waiting trial, *mitted* under civil process.

For more than the third time.	For want of sureties to keep the peace.	Witnesses.	Lunatics and idiots.	Fraudulent debtors.	Under civil process.	Acquitted on trial and discharged.	Discharged without trial.	Died before trial.	Waiting trial.	Sentenced for any period.	NAME OF GAOL.
10	3	.....	15	1	.....	191	.....	.....	4	134	Barrie
3	1	.....	6	2	.....	7	.....	.....	.....	47	Berlin.
13	2	.....	15	2	.....	59	2	.....	6	92	Belleville.
50	3	.....	5	.....	.....	34	4	.....	2	127	Brantford.
12	.....	.....	.....	.....	.....	126	.....	.....	.....	25	Brampton.
55	2	.....	12	.....	.....	27	2	.....	2	200	Brockville.
11	3	.....	1	.....	.....	11	1	.....	1	51	Cayuga.
1	1	.....	12	1	5	.....	1	.....	.....	48	Cornwall.
9	1	.....	8	.....	.....	4	10	.....	4	100	Cobourg.
.....	2	.....	5	3	.....	36	6	.....	2	98	Chatham.
19	2	1	10	3	.....	23	1	.....	2	48	Goderich.
4	1	.....	10	1	2	11	20	.....	.....	102	Guelph.
298	16	.....	8	.....	.....	47	194	.....	2	687	Hamilton.
1	.....	.....	4	.....	.....	2	41	.....	.....	131	Kingston.
108	2	2	20	3	.....	334	58	.....	18	567	London.
.....	4	.....	6	.....	1	9	.....	.....	2	53	Lindsay.
.....	.....	.....	4	1	.....	6	.....	.....	1	11	L'Orignal.
.....	2	.....	4	.....	.....	.....	110	.....	.....	24	Milton.
8	.....	.....	7	1	9	4	.....	.....	.....	51	Napanee
14	.....	.....	36	.....	.....	261	.....	.....	10	406	Ottawa.
23	2	.....	8	3	.....	53	9	1	6	118	Owen Sound.
4	.....	.....	2	1	.....	4	.....	.....	.....	49	Orangeville.
10	.....	.....	11	.....	.....	2	7	.....	.....	50	Perth.
13	1	.....	1	.....	1	52	.....	.....	.....	10	Picton.
15	1	.....	13	1	1	6	25	.....	3	63	Pembroke.
20	2	.....	8	.....	.....	6	.....	.....	2	130	Peterboro.
.....	.....	3	10	1	.....	695	2	2	5	116	Port Arthur.
6	.....	6	1	.....	.....	40	5	.....	.....	184	Rat Portage.
4	4	.....	7	.....	.....	5	30	.....	1	34	Simcoe.
.....	1	.....	9	1	.....	5	9	.....	.....	72	St. Catharines.
6	1	.....	8	2	.....	53	.....	2	1	228	Sarnia.
15	3	.....	9	2	1	4	57	2	.....	77	Stratford.
4	.....	2	16	.....	1	11	21	.....	1	206	Sandwich.
24	5	2	9	6	.....	35	26	.....	3	181	St. Thomas.
.....	3	6	.....	.....	.....	2	1	.....	3	22	Sault Ste. Marie.
364	28	5	84	15	1	906	11	5	16	2180	Toronto.
1	.....	.....	9	1	11	9	.....	.....	1	27	Walkerton.
41	2	.....	12	2	1	6	183	.....	.....	135	Woodstock.
31	2	.....	2	4	.....	2	66	.....	2	222	Welland.
16	1	.....	5	3	.....	14	5	.....	7	66	Whitby.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lock-ups—
1	.....	.....	.....	.....	.....	5	.....	.....	.....	18	Bracebridge.
.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	Gore Bay.
.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	Little Current.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18	Manitowaning.
.....	.....	.....	2	.....	.....	6	.....	.....	.....	35	Mattawa.
.....	.....	.....	1	.....	1	6	1	.....	.....	13	Parry Sound.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	Haliburton.
.....	.....	.....	2	.....	.....	27	4	.....	.....	3	Sudbury.
1214	102	27	418	60	37	3146	912	12	107	7260	Totals.

TABLE

Shewing the offences for which prisoners were *committed*

NAME OF GAOL.	Abortion.	Abusive and obscene language.	Arson.	Assault.	Assault, felonious.	Attempted suicide.	Abduction.	Bigamy.	Breaches of the peace.	Breaches of by-laws.	Burglary.	Carrying unlawful weapons.	Contempt of court.
Barrie			1	14	6		1	1				3	8
Berlin				7									
Belleville				8	3						6		2
Brantford		1	1	7	3								
Brampton									1		1		
Brockville		1	1	3	6								3
Cayuga				5							1		1
Cornwall		1		9								1	2
Cobourg		2	4	8	2								5
Chatham		3	3	3	1			1	2	4			6
Goderich		1	1	3								3	2
Guelph			1	10			1			1			3
Hamilton		14		77	24	2			1	2	2	3	
Kingston		3	3	7	3						1		
London		13	2	46	1					25	3	5	8
Lindsay				5	1	1							
L'Orignal				2	1								1
Milton													
Napanee		4		3			1		1			1	4
Ottawa		1		67	2	1			33	3	2		11
Owen Sound				10									4
Orangeville			1	2									1
Perth				2	8								4
Picton				7									
Pembroke				12									1
Peterboro'		1		6								1	
Port Arthur		7		38	4				1			9	
Rat Portage		4		10									
Simcoe				1							5		5
St. Catharines		1		5	4						1	1	
Sarnia		1		9	1	1						1	3
Stratford		1		1	2			1		2			7
Sandwich		1	2	13	1						3	5	3
St. Thomas				14	11						6	3	6
Sault Ste Marie				3	1					1			
Toronto		9	4	136	54	4		3		8	10	11	3
Walkerton				4									3
Woodstock		1		11				1		3	2		
Welland		2		9	7								4
Whitby	1	1		5		1					1		4
Lock-ups—													
Bracebridge									2				1
Gore Bay													
Little Current													
Manitowaning				2									
Mattawa				1								2	1
Parry Sound		3		1									1
Haliburton													
Sudbury													
Total	1	76	24	586	146	10	3	7	44	49	44	49	107

No. 4.

during the year ended 30th September, 1884.

Counterfeiting and passing counterfeit money.	Cruelty to animals.	Cutting and wounding and attempting same.	Debtors.	Deserting employment.	Destroying and injuring property.	Detained as witnesses.	Drunk and disorderly.	Embezzlement.	Escaping from or obstructing constables.	Escaping from prisons.	Forgery.	Fraud, and obtaining money under false pretences.	NAME OF GAOL.
1	....	.....	2	....	.....	....	99	....	.....	.....	3	6	Barrie.
.....	....	.....	2	....	.....	....	11	....	2	.....	.....	1	Berlin.
.....	....	.....	2	....	1	....	50	....	.....	.....	2	2	Belleville.
1	....	.....	....	2	1	....	58	....	.....	.....	.....	1	Brantford.
.....	....	.....	....	....	.....	....	10	....	.....	.....	.....	1	Brampton.
.....	....	.....	....	....	3	....	135	....	.....	1	.....	2	Brockville.
.....	....	.....	....	....	1	....	7	....	.....	.....	.....	.....	Cayuga.
.....	....	.....	1	....	1	....	9	....	2	.....	.....	.....	Cornwall.
2	....	.....	....	....	2	....	26	....	1	.....	.....	2	Cobourg.
.....	....	.....	3	....	4	....	26	2	.....	.....	2	1	Chatham.
1	....	1	3	....	.....	1	4	....	.....	1	.....	1	Goderich.
.....	....	.....	1	....	.....	....	49	....	.....	.....	.....	5	Guelph.
.....	4	4	....	....	22	....	295	4	1	.....	.....	17	Hamilton.
.....	....	.....	.....	....	1	....	75	....	.....	2	1	.....	Kingston.
.....	....	.....	3	1	16	2	445	2	3	.....	5	7	London.
.....	....	.....	1	....	.....	....	20	....	.....	.....	1	.....	Lindsay.
.....	....	.....	1	....	1	....	.....	1	.....	.....	.....	5	L'Orignal.
.....	....	.....	.....	....	.....	....	6	....	.....	.....	.....	.....	Milton.
.....	....	.....	1	....	.....	....	20	....	.....	.....	.....	6	Napanee.
.....	4	1	....	4	14	....	314	3	2	.....	1	1	Ottawa.
.....	....	1	3	....	1	....	28	....	1	.....	.....	2	Owen Sound.
.....	....	.....	.....	....	.....	....	1	....	.....	.....	.....	2	Orangeville.
.....	....	.....	.....	....	.....	....	7	....	.....	.....	.....	3	Perth.
.....	....	.....	.....	....	.....	....	46	....	.....	.....	.....	.....	Picton.
.....	1	.....	1	....	.....	....	27	....	.....	1	2	1	Pembroke.
.....	....	.....	.....	....	3	....	30	3	.....	.....	1	1	Peterboro'.
.....	....	.....	1	....	3	3	544	....	14	.....	1	1	Port Arthur.
.....	....	.....	.....	....	3	3	161	....	.....	1	.....	.....	Rat Portage.
.....	....	1	.....	....	1	....	17	....	.....	.....	.....	6	Simcoe.
.....	....	.....	1	....	.....	....	39	....	4	.....	.....	1	St. Catharines.
.....	....	.....	2	....	.....	....	105	2	.....	.....	.....	2	Sarnia.
.....	....	.....	2	....	2	....	14	1	1	.....	1	8	Stratford.
.....	1	.....	.....	....	8	....	103	2	.....	1	.....	.....	Sandwich.
.....	....	.....	.....	1	.....	2	82	....	.....	2	3	9	St. Thomas.
.....	....	.....	.....	....	1	3	3	....	1	.....	.....	.....	Sault Ste. Marie.
.....	....	5	16	....	23	5	1661	12	24	.....	3	13	Toronto.
.....	....	.....	1	....	.....	....	3	2	.....	.....	1	1	Walkerton.
.....	....	.....	3	....	8	....	51	1	.....	.....	1	3	Woodstock.
.....	....	.....	.....	....	1	....	23	....	.....	2	.....	.....	Welland.
.....	....	.....	3	....	1	....	1	1	.....	.....	.....	1	Whitby.
													Lock-ups —
.....	....	.....	.....	....	.....	....	13	....	.....	.....	.....	.....	Bracebridge.
.....	....	.....	.....	....	.....	....	.....	....	.....	.....	.....	.....	Gore Bay.
.....	....	.....	.....	....	.....	....	1	....	.....	.....	.....	.....	Little Current.
.....	....	.....	.....	....	.....	....	11	....	.....	.....	.....	.....	Manitowaning.
.....	....	.....	.....	....	.....	....	11	....	6	1	1	1	Mattawa.
.....	....	.....	.....	....	.....	....	3	....	1	.....	.....	.....	Parry Sound.
.....	....	.....	.....	....	.....	....	.....	....	.....	.....	1	.....	Haliburton.
.....	....	.....	.....	....	.....	....	6	....	.....	.....	.....	.....	Sudbury.
5	10	13	53	8	122	19	4650	36	63	12	30	113	Total.

TABLE

Showing the offences for which prisoners were *committed*

NAME OF GAOL	Giving liquor to Indians.	Horse, cattle or sheep stealing.	Housebreaking and robbery.	Indecent assault and exposure.	Inmates and frequenters of houses of ill-fame.	Keeping houses of ill-fame.	Larceny.	Lunatics and persons who were unsafe to be at large.	Manslaughter.	Misdemeanor.	Murder.	Perjury.	Prostitution.
Barrie	2	3	....	1	3	4	27	15	1	.....	.....	.....	2
Berlin	....	1	....	....	.....	.....	13	6	....	1	.....	.....	.....
Belleville	....	1	1	2	1	.....	32	15	.....	2	.....	1	.....
Brantford	4	1	4	1	1	1	37	5	.....	.....	.....	.....	.....
Brampton	....	....	2	1	.....	.....	3	....	.....	.....	.....	.....	.....
Brockville	....	....	1	1	....	1	25	12	.....	4	.....	.....	6
Cayuga	....	2	....	.....	1	1	8	1	.....	.....	1	1	1
Cornwall	....	1	4	2	.....	.....	18	12	.....	.....	3	.....	.....
Cobourg	1	4	....	.....	.....	.....	22	8	.....	.....	.....	1	1
Chatham	1	5	1	.....	.....	1	37	5	.....	3	.....	1	4
Goderich	....	....	....	.....	.....	.....	15	10	5	....	.....	.....	.....
Guelph	....	2	5	.....	.....	.....	33	10	.....	.....	.....	.....	1
Hamilton	....	4	20	1	17	13	35	14	1	1	.....	1	.....
Kingston	....	....	4	1	.....	.....	31	5	....	.....	.....	.....	.....
London	2	11	20	6	14	19	143	20	1	1	8	1	.....
Lindsay	....	....	1	.....	4	.....	7	6	.....	.....	.....	1	.....
L'Orignal	....	....	....	.....	....	.....	6	4	.....	.....	.....	.....	.....
Milton	....	....	1	.....	.....	.....	2	4	.....	.....	.....	.....	.....
Napanee	....	....	....	....	3	.....	5	8	.....	.....	.....	.....	3
Ottawa	....	2	8	4	15	16	92	36	.....	.....	.....	.....	.....
Owen Sound	....	2	13	1	2	1	33	8	.....	....	3	.....	9
Orangeville	....	....	....	.....	.....	.....	9	2	.....	.....	.....	.....	.....
Perth	....	....	....	.....	.....	.....	9	11	.....	.....	.....	.....	.....
Picton	....	....	....	.....	.....	.....	5	1	.....	.....	3	.....	.....
Pembroke	....	....	....	.....	.....	.....	21	13	3	.....	.....	.....	.....
Peterboro'	....	....	....	.....	.....	1	29	8	.....	.....	.....	.....	.....
Port Arthur	....	....	21	2	6	1	123	10	.....	.....	1	1	.....
Rat Portage	1	....	2	5	15	9	10	1	.....	1	.....	.....	.....
Simcoe	....	....	....	.....	.....	.....	7	7	.....	1	.....	.....	.....
St. Catharines	....	....	2	1	.. ..	.....	21	9	.....	.....	.....	.....	.....
Sarnia	....	....	3	.....	2	1	39	8	.....	.....	.....	.....	.....
Stratford	....	1	....	2	7	3	30	9	.....	.....	.....	.....	.....
Sandwich	....	5	....	.....	4	2	44	16	.....	.....	1	.....	4
St. Thomas	4	....	3	1	1	1	49	9	1	.....	.....	.....	.....
Sault Ste. Marie	1	....	....	.....	.....	.....	12	6	.....	.....	1	.....	.....
Toronto	....	12	36	12	86	29	520	84	4	.....	11	1	.....
Walkerton	....	....	1	.....	1	.....	7	9	.....	.....	.....	.....	.....
Woodstock	....	2	....	.....	.....	.....	31	12	.....	.....	13	.....	5
Welland	....	3	2	1	.....	.....	20	2	.....	.....	.....	1	.....
Whitby	....	1	1	.....	.....	.....	18	5	1	1	.....	2	.....
Lock-ups—													
Bracebridge	....	....	....	1	.....	.....	1	.....	.....	.....	.....	.....	.....
Gore Bay	....	....	....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....
Little Current	....	....	....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Manitowaning	1	....	....	.....	.....	.....	1	1	.....	.....	.....	.....	.....
M ttawa	....	....	....	2	.....	.....	4	2	3	.....	.....	.....	.....
Parry Sound	1	....	....	.....	.....	1	4	1	.....	.....	.....	.....	.....
Haliburton	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sudbury	....	....	....	.....	.....	.....	4	2	.....	.....	.....	.....	.....
Total	18	63	156	48	183	106	1742	433	20	15	45	12	39

No. 4.—*Continued.*

during the year ended 30th September, 1884.

Rape and assault with intent.	Receiving stolen goods.	Selling liquor without license.	Shooting with intent.	Stabbing.	Threatening and seditious language.	Trespass.	Unlawful shooting.	Vagrancy.	Want of sureties to keep the peace.	Other offences not enumerated.	Total.	NAME OF GAOL.
2	1	.....	1	.....	3	4	.....	123	2	9	348	Barrie.
....	....	.....	.....	.....	.....	.....	.....	14	1	2	63	Berlin.
....	3	.....	.....	.....	1	.....	.....	37	1	5	178	Belleville.
....	....	1	.....	2	.....	4	.....	31	3	5	175	Brantford.
....	....	.....	.....	.....	.....	.....	.....	131	1	.....	151	Brampton.
1	....	.....	.....	.....	.....	.....	.....	31	3	5	245	Brockvil
1	....	1	.....	.....	.....	1	1	30	2	1	68	Cayuga.
....	....	.....	.....	.....	.....	.....	.....	.....	1	1	68	Cornwall.
1	....	.. ...	1	.....	1	1	.....	24	1	7	127	Cobourg.
2	....	3	.....	.....	.....	3	.....	20	3	3	153	Chatham.
8	....	2	.....	.....	.....	.....	.....	24	2	2	90	Goderich.
....	....	.....	.....	.....	.....	3	.....	18	1	3	147	Guelph.
5	5	.....	4	.....	.....	48	.....	148	16	49	954	Hamilton.
....	....	1	.....	.....	.....	.....	.....	40	.....	.....	178	Kingston.
2	3	1	.....	1	12	24	1	119	2	6	1004	London.
2	....	1	.....	.....	.....	1	.....	19	4	.....	75	Lindsay.
....	....	.....	1	.....	.....	.....	.....	.....	.....	.....	23	L'Orignal.
....	....	.....	.....	.....	.....	.....	.....	123	2	2	140	Milton.
2	....	.....	.....	.....	.....	2	.....	4	.....	4	72	Napanee.
....	....	1	.....	.....	.....	.....	2	63	.....	9	713	Ottawa.
....	1	.....	1	.....	.....	.....	.....	70	2	4	200	Owen Sound.
....	....	.....	.....	.....	.....	.....	.....	38	.....	.....	56	Orangeville.
....	....	.....	.....	.....	.....	1	.....	24	.....	1	70	Perth.
....	....	.....	.....	.....	.....	.....	.....	.....	1	2	65	Picton.
1	....	.....	1	.....	.....	.....	.....	24	1	2	113	Pembroke.
2	1	.....	.....	2	.....	.....	.....	44	2	13	148	Peterboro'.
1	....	8	1	4	3	13	.....	13	.....	.....	834	Port Arthur.
....	....	4	.....	.....	.....	.....	.....	4	.....	2	236	Rat Portage.
....	....	.....	.....	.....	.....	.....	.....	18	4	8	81	Simcoe.
....	....	.....	.....	.....	.....	.....	.....	4	1	2	97	St. Catharines.
1	....	.....	1	.....	.....	.....	.....	105	3	5	295	Sarnia.
....	....	1	.....	.....	1	4	.....	48	3	3	155	Stratford.
....	2	1	1	.....	.....	12	1	22	.....	.....	258	Sandwich.
1	2	1	.....	.....	1	24	.....	11	5	14	267	St. Thomas.
1	....	.....	.....	.....	.....	1	.....	2	.....	.....	37	Sault Ste. Marie.
3	16	5	2	1	.....	85	.....	302	28	9	3251	Toronto.
1	....	.....	.....	.....	.....	.....	.....	8	.....	16	58	Walkerton.
....	....	1	.....	1	....	6	1	180	2	2	341	Woodstock.
....	....	.....	2	.....	.....	1	.....	161	3	56	300	Welland.
4	....	2	1	.....	.....	.....	.....	38	1	6	101	Whitby.
												Lock-ups—
....	....	.....	.....	.....	.....	.....	.....	3	.....	1	23	Bracebridge.
....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	Gore Bay.
....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	Little Current.
1	....	.....	.....	1	.....	.....	.....	.....	.....	.....	18	Manitowaning.
2	....	4	.....	2	.....	.....	.....	.....	.....	.....	43	Mattawa.
....	....	2	.....	.....	.....	.....	.....	1	.....	3	22	Parry Sound.
....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	Haliburton.
....	....	13	.....	.....	.....	.....	.....	11	.....	.....	36	Sudbury.
44	34	53	17	14	22	238	6	2130	101	262	12081	Total.

TABLE No. 5.

Shewing the total number of prisoners, male and female, *committed* under each offence during the year.

OFFENCES.	Male.	Female.	Total.
Abortion	1	.....	1
Abusive and obscene language	62	14	76
Arson	23	1	24
Assault	554	32	586
Assault, felonious	146	.....	146
Attempted suicide	6	4	10
Abduction	2	1	3
Bigamy	5	2	7
Breaches of the peace	36	8	44
Breaches of by-laws	47	2	49
Burglary	44	.....	44
Carrying unlawful weapons	49	.....	49
Contempt of court	101	6	107
Counterfeiting and passing counterfeit money	5	.....	5
Cruelty to animals	10	.....	10
Cutting and wounding, and attempting same	13	.....	13
Debtors	53	.....	53
Deserting employment	8	.....	8
Destroying and injuring property	112	10	122
Detained as witnesses	16	3	19
Drunk and disorderly	3895	755	4650
Embezzlement	36	.....	36
Escaping from or obstructing constable	63	.....	63
Escaping from prison	12	.....	12
Forgery	27	3	30
Fraud, or obtaining money or goods under false pretences	103	10	113
Giving liquor to Indians	18	.....	18
Horse, cattle, or sheep stealing	63	.....	63
Housebreaking and robbery	152	4	156
Carried forward	5662	855	6517

TABLE No. 5.—*Continued.*

Shewing the total number of prisoners, male and female, *committed* under each offence during the year.

OFFENCES.	Male.	Female.	Totals.
Brought forward	5662	855	6517
Indecent assault and exposure	44	4	48
Inmates and frequenters of houses of ill-fame	83	100	183
Keeping houses of ill-fame	30	76	106
Larceny	1530	212	1742
Lunatics and persons who were unsafe to be at large	296	137	433
Manslaughter	18	2	20
Misdemeanour	15	.....	15
Murder	38	7	45
Perjury	12	.....	12
Prostitution	.....	39	39
Rape and assault with intent	44	.....	44
Receiving stolen goods	34	.....	34
Selling liquor without license	50	3	53
Shooting with intent	17	.....	17
Stabbing	14	.....	14
Threatening and seditious language	19	3	22
Trespass	227	11	238
Unlawful shooting	6	.....	6
Vagrancy	1854	276	2130
Want of sureties to keep the peace	92	9	101
Other offences not enumerated	231	31	262
Total	10316	1765	12081

TABLE No. 6.

Shewing the number of prisoners, male and female, *sentenced* during the year ended 30th September, 1884, and a comparison of the same with the previous year.

NAME OF GAOL.	No. of prisoners *sentenced* in the year ended 30th September, 1884.			No. of prisoners *sentenced* in the year ended 30th September, 1883.			Increase.			Decrease.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Barrie	120	14	134	98	20	118	22	.....	22	.....	6	6
Berlin	44	3	47	52	9	61	.....	.....	.....	8	6	14
Belleville	77	15	92	91	13	104	.....	2	2	14	.....	14
Brantford	103	24	127	94	22	116	9	2	11	.....	.....	.....
Brampton	24	1	25	24	1	25	.....	.....	.....	.....	.....	.....
Brockville	170	30	200	138	32	170	32	.....	32	.....	2	2
Cayuga	40	11	51	17	1	18	23	10	33	.....	.....	.....
Cornwall	46	2	48	24	2	26	22	.....	22	.....	.....	.....
Cobourg	98	2	100	80	8	88	18	.....	18	.....	6	6
Chatham	83	15	98	73	3	76	10	12	22	.....	.....	.....
Goderich	41	7	48	32	10	42	9	.....	9	.....	3	3
Guelph	94	8	102	116	14	130	.....	.....	.....	22	6	28
Hamilton	561	126	687	542	104	646	19	22	41	.....	.....	.....
Kingston	100	31	131	114	20	134	.....	11	11	14	.....	14
London	477	90	567	394	73	467	83	17	100	.....	.....	.....
Lindsay	52	1	53	26	3	29	26	.....	26	.....	2	2
L'Orignal	11	.....	11	14	1	15	.....	.....	.....	3	1	4
Milton	21	3	24	33	1	34	.....	2	2	12	.....	12
Napanee	37	14	51	41	5	46	.....	9	9	4	.....	4
Ottawa	315	91	406	335	103	438	.....	.....	.....	20	12	32
Orangeville	42	7	49	26	6	32	16	1	17	.....	.....	.....
Owen Sound	101	17	118	76	3	79	25	14	39	.....	.....	.....
Perth	43	7	50	42	4	46	1	3	4	.....	.....	.....
Picton	10	.....	10	12	.....	12	.....	.....	.....	2	.....	2
Pembroke	59	4	63	45	4	49	14	.....	14	.....	.....	.....
Peterboro'	119	11	130	154	7	161	.....	4	4	35	.....	35
Carried Forward...	2888	534	3422	2693	469	3162	329	109	438	134	44	178

TABLE No. 6.—*Continued.*

Shewing the number of prisoners, male and female, *sentenced* during the year ended 30th September, 1884, and a comparison of the same with the previous year.

NAME OF GAOL.	No. of prisoners *sentenced* in the year ended 30th September, 1884.			No. of prisoners *sentenced* in the year ended 30th September, 1883.			Increase.			Decrease.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Brought Forward	2888	534	3422	2693	469	3162	329	109	438	134	44	178
Port Arthur	116	.....	116	68	3	71	48	.....	48	.....	3	3
Rat Portage	171	13	184	.....	.....	.....	171	13	184	.....	.....	.....
Simcoe	32	2	34	54	2	56	.....	.....	.....	22	.....	22
St. Catharines	63	9	72	91	10	101	.....	.....	.....	28	1	29
Sarnia	216	12	228	155	11	166	61	1	62	.....	.....	.....
Stratford	66	11	77	56	7	63	10	4	14	.....	.....	.....
Sandwich	155	51	206	162	46	208	.....	5	5	7	.....	7
St. Thomas	158	23	181	124	6	130	34	17	51	.....	.....	.....
Sault Ste Marie	22	.....	22	8	.....	8	14	.....	14	.....	.....	.....
Toronto	1657	523	2180	1381	518	1899	276	5	281	.....	.....	.....
Walkerton	25	2	27	17	2	19	8	.....	8	.....	.....	.....
Woodstock	123	12	135	83	11	94	40	1	41	.....	.....	.....
Welland	219	3	222	162	6	168	57	.....	57	.....	3	3
Whitby	64	2	66	71	9	80	.....	.....	.....	7	7	14
Lock-up, Bracebridge	18	.....	18	1	.....	1	17	.....	17	.....	.....	.....
" Gore Bay	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Little Current	.....	.....	.....	2	1	3	.....	.....	.....	2	1	3
Manitowaning	18	.....	18	19	2	21	.....	.....	.....	1	2	3
Mattawa	33	2	35	21	.....	21	12	2	14	.....	.....	.....
" Parry Sound	13	.....	13	19	3	22	.....	.....	.....	6	3	9
" Silver Islet	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
" Minden	.....	.....	.....	6	.....	6	.....	.....	.....	6	.....	6
" Haliburton	1	.....	1	1	.....	1	.....	.....	.....	.....	.....	.....
" Sudbury	3	.....	3	.....	.....	.....	3	.....	3	.....	.....	.....
Total	6061	1199	7260	5194	1106	6300	1080	157	1237	213	64	277

TABLE

Shewing the number of prisoners upon whom sentences were passed, the nature the County Judges'

NAME OF GAOL.	Total number of prisoners sentenced during the year.			WHERE SENTENCED TO.											
	Male.	Female.	Total.	To Gaol and afterwards transferred to Central Prison.	To Central Prison direct.	To Gaol and afterwards to Female Reformatory.	To Female Reformatory direct.	To Provincial Penitentiary	To Reformatory for Boys.	Died while undergoing sentence.	To Gaol and there detained until expiration of sentence or payment of fine.	Under 30 days.	30 days and up to 60 or 2 months, not including the last term.	60 days or two months.	Over 2 to 3 months.
Barrie	120	14	134	9	2	1	3	5	1	2	111	37	45	10	14
Berlin	44	3	47	7	4	1	1	2	....	....	32	11	17	3	5
Belleville	77	15	92	....	11	....	3	4	2	....	72	22	35	8	3
Brantford	103	24	127	....	6	....	1	4	1	....	115	32	50	15	4
Brampton	24	1	25	....	....	....	....	1	....	1	23	1	11	6	3
Brockville	170	30	200	2	10	1	4	6	....	1	176	135	18	12	....
Cayuga	40	11	51	....	2	....	....	....	....	2	47	33	3	11	4
Cornwall	46	2	48	....	8	....	....	2	4	....	34	14	16	5	....
Cobourg	98	2	100	21	8	....	....	....	1	....	70	25	28	15	12
Chatham	83	15	98	18	2	4	3	3	6	....	62	38	10	6	5
Goderich	41	7	48	....	....	....	....	5	1	2	40	15	10	7	4
Guelph	94	8	102	3	12	....	2	1	2	....	82	61	14	4	6
Hamilton	561	126	687	32	29	18	22	13	13	1	559	336	184	38	18
Kingston	100	31	131	3	17	....	7	2	4	....	98	22	49	7	18
London	477	90	567	31	17	2	2	5	5	2	503	357	89	43	29
Lindsay	52	1	53	1	1	....	1	....	....	....	50	25	16	1	3
L'Orignal	11	....	11	....	....	....	....	2	1	....	8	3	2	....	....
Milton	21	3	24	....	1	....	....	....	....	1	22	1	8	5	1
Napanee	37	14	51	....	2	1	....	1	....	2	45	30	....	6	9
Ottawa	315	91	406	10	5	14	5	4	2	1	365	278	5	31	31
Owen Sound	101	17	118	1	11	....	7	5	....	4	90	42	26	11	13
Orangeville	42	7	49	....	2	....	....	....	....	2	45	15	10	2	2
Perth	43	7	50	3	1	....	1	....	1	1	43	7	11	4	8
Picton	10	....	10	....	2	....	....	....	....	....	8	2	4	....	....
Pembroke	59	4	63	4	6	....	....	4	1	....	48	11	13	2	10
Peterborough	119	11	130	1	6	....	2	....	1	....	120	76	25	2	....
Port Arthur	116	....	116	....	3	....	....	7	....	....	106	59	26	2	4
Rat Portage	171	13	184	....	....	....	....	....	....	....	184	163	15	4	....
Simcoe	32	2	34	1	1	....	....	2	2	....	28	19	2	....	5
St. Catharines	63	9	72	1	12	....	1	5	2	....	51	30	12	5	3
Sarnia	216	12	228	....	9	1	1	4	3	2	208	133	48	26	....
Stratford	66	11	77	2	1	....	....	1	....	....	73	32	28	9	5
Sandwich	155	51	206	6	34	....	8	2	1	1	154	102	29	21	9
St. Thomas	158	23	181	7	27	....	4	4	4	....	135	70	50	11	19
Sault Ste. Marie	22	....	22	....	4	....	....	....	....	....	18	6	5	1	....
Toronto	1657	523	2180	158	83	17	18	29	14	3	1858	505	1230	171	74
Walkerton	25	2	27	....	1	....	....	1	....	....	25	11	8	3	2
Woodstock	123	12	135	7	10	....	5	....	5	....	108	44	30	24	6
Welland	219	3	222	6	11	....	....	6	....	1	198	47	105	35	11
Whitby	64	2	66	1	11	....	1	3	5	....	45	22	11	7	3
Lock-up, Braceb'ge.	18	....	18	....	....	....	....	....	....	....	18	18	....	....	....
Gore Bay	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Little Current	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Manitowaning	18	....	18	1	....	....	....	....	....	....	17	17	1	....	....
Mattawa	33	2	35	....	....	....	....	....	....	....	35	32	3	....	....
Parry Sound	13	....	13	....	1	....	....	....	....	....	12	12	....	....	....
Minden	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Haliburton	1	....	1	....	....	....	....	....	....	....	1	1	....	....	....
Sudbury	3	....	3	1	....	....	....	....	....	....	2	2	....	....	....
Total	6061	1199	7260	337	373	60	102	133	82	29	6144	2954	2302	573	343

NO 7.

and period of such sentences and the disposal of those who elected to be tried at Criminal Court.

PERIODS OF SENTENCE.										COUNTY JUDGES' CRIMINAL COURT.			NAME OF GAOL.
Over 3 to 4 months.	Over 4 to 5 months.	Over 5 to 6 months.	Over 6 to 9 months.	Over 9 months and up to 1 year, inclusive.	Over 1 year and up to 2.	Over 2 years and up to 3 to Penitentiary.	Over 3 years and upwards to Penitentiary.	For any period to the Reformatory for Boys.	Number of prisoners sentenced to death and executed.	Acquitted on trial and discharged from custody.	Found guilty and sentenced	Total number who elected to be tried.	
3	....	16	....	1	2	.....	5	1	.....	17	27	44	Barrrie.
2	....	4	1	.....	2	1	1	.....	.....	1	17	18	Berlin.
5	1	5	....	7	.....	3	1	2	.....	1	6	9	Belleville.
10	2	3	4	2	.....	1	3	1	.....	53	122	175	Brantford.
1	....	2	....	.....	.....	1	.....	.....	.....	2	3	5	Brampton.
3	1	14	2	1	8	2	4	.....	.....	3	9	12	Brockville.
....	....	....	....	.....	.....	.....	.....	.....	.....	6	7	13	Cayuga.
....	....	3	3	1	.....	2	.....	4	.....	.....	12	12	Cornwall.
2	....	12	2	3	.....	.....	.....	1	.....	2	18	20	Cobourg.
....	....	20	....	3	7	2	1	6	.....	13	6	19	Chatham.
1	....	5	....	.....	.....	.....	5	1	.....	10	10	20	Goderich.
1	....	8	1	4	.....	.....	1	2	.....	10	12	22	Guelph.
1	....	51	....	21	12	.....	13	13	.....	9	1	10	Hamilton.
4	3	10	....	6	6	1	1	4	.....	1	5	6	Kingston.
8	6	19	3	2	1	4	1	5	.....	27	42	69	London.
3	....	4	....	1	.....	.....	.....	.....	.....	5	5	10	Lindsay.
1	....	2	....	.....	.....	2	.....	1	.....	1	5	6	L'Orignal.
3	....	5	....	1	.....	.....	.....	.....	.....	1	3	4	Milton.
....	....	....	5	.....	.....	1	.....	.....	.....	1	3	4	Napanee.
20	1	13	21	.....	.....	3	1	2	.....	1	6	7	Ottawa.
4	....	6	1	2	8	3	2	.....	.....	1	1	2	Owen Sound.
1	....	16	2	1	.....	.....	.....	.....	.....	5	3	8	Orangeville.
4	14	....	....	.....	1	.....	.....	1	.....	2	8	10	Perth.
....	....	2	....	.....	.....	.....	.....	.....	2	.....	4	4	Picton.
....	1	16	1	4	.....	4	.....	1	.....	16	2	18	Pembroke.
5	....	16	....	4	1	.....	.....	1	.....	3	6	9	Peterborough.
4	1	10	....	3	.....	7	.....	.....	.....	33	36	69	Port Arthur.
....	....	2	....	.....	.....	.....	.....	.....	.....	5	23	28	Rat Portage.
3	....	1	....	.....	.....	1	1	2	.....	2	5	7	Simcoe.
9	2	1	1	1	1	2	3	2	.....	3	9	12	St. Catharines.
1	....	....	8	4	1	1	3	3	.....	8	30	38	Sarnia.
....	....	2	....	.....	.....	1	.....	.....	.....	1	4	5	Stratford.
11	5	2	7	8	8	2	.....	1	1	5	16	21	Sandwich.
2	....	16	....	4	1	3	1	4	.....	8	13	21	St. Thomas.
2	....	....	2	4	2	.....	.....	.....	.....	2	9	11	Sault Ste. Marie.
35	12	72	15	14	9	19	10	14	.....	16	21	37	Toronto.
....	....	1	....	1	.....	1	.....	.....	.....	7	6	13	Walkerton.
4	....	18	....	.....	4	.....	.....	5	.....	7	9	16	Woodstock.
4	2	7	1	1	3	2	4	.....	.....	4	9	13	Welland.
3	2	6	....	3	1	1	2	5	.....	6	12	18	Whitby.
....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Lock-up, Bracebridge.
....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gore Bay.
....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	ittle Current.
....	....	....	....	.....	.....	.....	.....	.....	.....	18	.....	18	Manitowaning.
....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mattawa.
....	....	....	....	1	.....	.....	.....	.....	.....	13	7	20	Parry Sound.
....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Minden.
....	....	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Haliburton.
....	....	....	....	.....	1	.....	.....	.....	.....	.....	.....	.....	Sudbury.
160	53	390	80	108	79	70	63	82	3	331	552	883	

TABLE

Shewing offences for which prisoners

NAME OF GAOL.	Abusive and obscene language.	Arson.	Assault.	Assault, felonious.	Attempted suicide.	Abduction.	Bigamy.	Breaches of peace.	Breaches of by-laws.	Burglary.	Carrying unlawful weapons.	Contempt of court.	Counterfeiting and passing counterfeit money.
Barrie	1	1	8	2	....	....	1	....	.....	.....	2	8	1
Berlin	....	....	5	....	....	....	....	....	.....	.....	.....	.....	.....
Belleville	....	....	5	....	....	....	....	....	.....	3	.....	2	.....
Brantford	1	....	6	3	....	....	....	....	.....	.....	.....	.....	.....
Brampton	....	....	....	....	....	....	....	1	.....	.....	.....	.....	.....
Brockville	1	....	2	6	....	....	....	....	.....	.....	.....	3	.....
Cayuga	....	....	4	....	....	....	....	....	.....	.....	.....	1	.....
Cornwall	1	....	9	....	....	....	....	....	.....	.....	1	2	.....
Cobourg	2	3	7	1	....	....	....	....	.....	.....	.....	3	2
Chatham	2	1	2	1	....	....	....	1	4	.....	.....	6	.....
Goderich	1	....	2	....	....	....	....	....	.....	.....	2	2	.....
Guelph	....	....	5	....	....	....	....	....	1	.....	.....	3	.....
Hamilton	11	....	50	12	1	....	....	1	2	2	3	.....	.....
Kingston	3	1	2	4	....	....	....	....	.....	1	.....	.....	.....
London	7	....	26	....	....	....	....	1	25	1	3	6	.....
Lindsay	....	....	3	....	1	....	....	....	.....	.....	.....	.....	.....
L'Orignal	....	....	1	....	....	....	....	....	.....	.....	.....	1	.....
Milton	....	....	....	....	....	....	....	....	.....	.....	.....	.....	.....
Napanee	4	....	3	....	....	....	....	1	.....	.....	.....	4	1
Ottawa	2	....	34	....	....	....	....	23	3	.....	.....	11	.....
Owen Sound	....	....	7	....	....	....	....	....	.....	.....	.....	4	.....
Orangeville	....	....	1	....	....	....	....	....	.....	.....	.....	1	.....
Perth	....	....	2	7	....	....	....	....	.....	.....	.....	4	.....
Picton	....	....	3	....	....	....	....	....	.....	.....	.....	.....	.....
Pembroke	....	....	7	....	....	....	....	....	.....	.....	1	1	.....
Peterboro'	1	....	6	....	....	....	....	....	.....	.....	1	.....	.....
Port Arthur	2	....	3	4	....	....	....	....	.....	.....	.....	.....	.....
Rat Portage	4	....	6	....	....	....	....	....	.....	.....	.....	.....	.....
Simcoe	....	....	....	....	....	....	....	....	.....	1	.....	5	.....
St. Catharines	1	....	5	1	....	....	....	....	.....	1	1	.....	.....
Sarnia	1	....	8	1	1	....	....	....	.....	.....	.....	2	.....
Stratford	1	....	1	....	....	....	....	....	.....	.....	.....	6	.....
Sandwich	1	2	13	1	....	....	....	....	.....	3	5	3	.....
St. Thomas	....	....	10	....	....	....	....	....	.....	3	3	.....	.....
Sault Ste. Marie	....	....	3	1	....	....	....	....	1	.....	.....	.....	.....
Toronto	8	....	78	29	1	....	2	....	8	4	3	11	.....
Walkerton	....	....	1	....	....	....	....	....	.....	.....	.....	3	.....
Woodstock	....	....	11	....	....	....	1	....	3	2	.....	.....	.....
Welland	2	....	8	4	....	....	....	....	.....	.....	.....	4	.....
Whitby	1	....	3	....	....	....	....	....	.....	1	1	4	.....
Lock-ups, Bracebridge	....	....	1	....	....	....	....	....	.....	.....	.....	.....	.....
Gore Bay	....	....	....	....	....	....	....	....	.....	.....	.....	.....	.....
Little Current	....	....	....	....	....	....	....	....	.....	.....	.....	.....	.....
Manitowaning	....	....	2	....	....	....	....	....	.....	.....	.....	.....	.....
Mattawa	....	....	1	....	....	....	....	....	.....	.....	2	1	.....
Parry Sound	3	....	1	....	....	....	....	....	.....	.....	.....	1	.....
Minden	....	....	....	....	....	....	....	....	.....	.....	.....	.....	.....
Haliburton	....	....	....	....	....	....	....	....	.....	.....	.....	.....	.....
Sudbury	....	....	....	....	....	....	....	....	.....	.....	.....	.....	.....
Total	61	8	355	78	4	....	4	28	47	22	28	102	4

No. 8.

were *sentenced* during the year.

Cruelty to animals.	Cutting, wounding and attempting same.	Deserting employment.	Destroying and injuring property.	Drunk and disorderly.	Embezzlement.	Escaping from and obstructing constables.	Escaping from prisons.	Forgery.	Fraud or obtaining money under false pretences.	Giving liquor to Indians.	NAME OF GAOL.
.....	.....	.....	.....	26	.....	.....	.....	2	2	2	Barrie.
.....	.....	.....	2	9	.....	1	.....	.....	.....	.....	Berlin.
.....	.....	.....	1	31	.....	.....	.....	.....	1	.....	Belleville.
.....	.....	2	1	47	.....	.....	.....	.....	.....	4	Brantford.
.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	Brampton.
.....	.....	.....	2	128	.....	.....	.....	.....	.....	.....	Brockville.
.....	.....	.....	1	7	.....	.....	.....	.....	.....	.....	Cayuga.
.....	.....	.....	.....	9	.....	1	.....	.....	.....	.....	Cornwall.
.....	.....	.....	.....	24	.....	1	.....	.....	.....	1	Cobourg.
.....	.....	.....	2	19	1	.....	.....	.....	.....	1	Chatham.
.....	1	.....	.....	2	.....	.....	.....	.....	1	.....	Goderich.
.....	.....	.....	.....	43	.....	.....	.....	.....	1	.....	Guelph.
4	.....	.....	18	248	2	1	.....	.....	9	.....	Hamilton.
.....	.....	.....	1	50	.....	.....	.....	1	.....	.....	Kingston.
.....	.....	1	10	265	1	2	.....	3	2	2	London.
.....	.....	.....	.....	19	.....	.....	.....	.....	.....	.....	Lindsay.
.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	L'Orignal.
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	Milton.
.....	.....	.....	.....	20	.....	.....	.....	.....	.....	.....	Napanee.
3	1	.....	8	207	.....	2	.....	.....	.....	.....	Ottawa.
.... .	1	.....	1	14	.....	1	.....	.....	1	.....	Owen Sound.
.. ...	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	Orangeville.
.....	.....	.....	.....	7	.....	.....	.....	.....	.....	.....	Perth.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Picton.
1	.....	.....	.....	8	.....	.....	1	.....	.....	.....	Pembroke.
.....	.....	.....	3	30	.....	.....	.....	1	1	.....	Peterboro.
.....	.....	.....	.....	37	.....	1	.....	1	.....	.....	Port Arthur.
.....	.....	.....	1	126	.....	.....	1	.....	.....	1	Rat Portage.
.....	1	.....	.....	2	.....	.....	.....	.....	1	.....	Simcoe.
.....	.....	.....	.....	36	.....	4	.....	.....	1	.....	St. Catharines.
.....	.....	.....	.....	86	.....	.....	.....	.....	1	.....	Sarnia.
.....	.....	.....	.....	7	1	1	.....	.....	3	.....	Stratford.
1	.....	.....	8	65	2	.....	1	.....	.....	.....	Sandwich.
.....	.....	1	.....	73	.....	.....	2	2	1	4	St. Thomas.
.....	.....	.....	1	3	.....	1	.....	.....	.....	.....	Sault Ste Marie.
.....	3	.....	21	1246	8	12	.....	2	3	.....	Toronto.
.....	.....	.....	.....	.....	1	.....	.....	1	1	.....	Walkerton.
.....	.....	.....	3	25	.....	.....	.....	.....	.....	.....	Woodstock.
.....	.....	.....	1	21	.....	.....	1	.....	.....	.....	Welland.
.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	Whitby.
.....	.....	.....	.....	13	.....	.....	.....	.....	.....	.....	Lock-ups, Bracebridge.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gore Bay.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Little Current.
.....	.....	.....	.....	11	.....	.....	.....	.....	.....	1	Manitowaning.
.....	1	.....	.....	1	.....	.....	.....	1	1	.....	Mattawa.
.....	.....	.....	.....	3	.....	1	.....	.....	.....	.....	Parry Sound.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Minden.
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	Haliburton.
.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	Sudbury.
9	8	4	85	2971	19	29	6	15	32	16	Total.

TABLE

Shewing offences for which prisoners

NAME OF GAOL.	Horse, cattle or sheep stealing.	Housebreaking and robbery.	Indecent assault and exposure.	Inmates and frequenters of houses of ill fame	Keeping houses of ill-fame.	Larceny.	Manslaughter.	Misdemeanor.	Murder.	Perjury.	Prostitution.
Barrie	4			4	3	20					2
Berlin	1					13		1			
Belleville	1		2			20					
Brantford		3	1			23					
Brampton		2									
Brockville		1	1		1	18		4			5
Cayuga	2			1	1	2					1
Cornwall	1	4	2			18					
Cobourg		3				19					1
Chatham	4	1	1		1	26		1			4
Goderich						10	3				
Guelph	2	2				26					1
Hamilton		10	1	12	12	82	1	1		1	
Kingston		4				26					
London	4	2	3	6	8	65					
Lindsay				4		5				1	
L'Orignal	4					1					
Milton		1				2					
Napanee				3		3					
Ottawa		8	2	8	9	53					
Owen Sound	1			3	1	18					
Orangeville						4					
Perth						5					
Picton						5			2		
Pembroke						18					
Peterboro'					1	27					
Port Arthur		4				53					
Rat Portage		1	5	14	9	7		1			
Simcoe						5					
St. Catharines						16					
Sarnia		2		2	1	30					
Stratford	1		1	3	2	11					
Sandwich	5			4	2	31			1		4
St. Thomas		3		1	1	34	1				
Sault Ste. Marie	1					10					
Toronto	4	23	8	38	20	341					
Walkerton	1					4					
Woodstock	1					17					5
Welland	1	2	1			16					
Whitby	1	1				10		1		2	
Lock-ups, Bracebridge						1					
Gore Bay											
Little Current											
Manitowaning						1					
Matawa		1				3	3				
Parry Sound						3					
Minden											
Haliburton											
Sudbury											
Totals	39	78	28	103	72	1102	8	9	3	4	23

No. 8.—*Continued.*

were *sentenced* during the year.

Rape and assault with intent.	Receiving stolen goods.	Selling liquor without license.	Shooting with intent.	Stabbing.	Threatening and seditious language.	Trespass.	Unlawful shooting.	Vagrancy.	Other offences not above enumerated.	Total.	NAME OF GAOL.
.....	.....	.....	1	.....	1	1	.....	40	2	134	Barrie.
.....	.....	.....	.....	.....	.....	.....	.....	14	1	47	Berlin.
.....	.....	.....	.....	.....	.....	.....	.....	24	2	92	Belleville.
.....	.....	1	.....	.....	.....	3	.....	29	3	127	Brantford.
.....	.....	.....	.....	.....	.....	.....	.....	21	.....	25	Brampton.
1	.....	.....	.....	.....	.....	.....	.....	25	2	200	Brockville.
.....	.....	1	.....	.....	.....	1	1	28	.....	51	Cayuga.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	48	Cornwall.
.....	.....	.....	.....	.....	1	1	.....	24	7	100	Cobourg.
1	.....	3	.....	.....	.....	2	.....	14	.....	98	Chatham.
.....	.....	2	.....	.....	.....	.....	.....	20	2	48	Goderich.
.....	.....	.....	.....	.....	.....	3	.....	14	1	102	Guelph.
4	1	.....	2	.....	.....	41	.....	126	29	687	Hamilton.
.....	.....	1	.....	.....	.....	.....	.....	37	.....	131	Kingston.
1	2	.....	.....	.....	.....	21	1	98	1	567	London.
.....	.....	.....	.....	.....	.....	1	.....	19	.....	53	Lindsay.
.....	.....	.....	.....	.....	.....	1	.....	.....	1	11	L'Orignal.
.....	.....	.....	.....	.....	.....	.....	.....	19	1	24	Milton.
.....	.....	.....	.....	.....	.....	2	.....	4	6	51	Napanee.
.....	.....	1	.....	.....	.....	.....	2	29	.....	406	Ottawa.
.....	1	.....	1	.....	.....	.....	.....	61	3	118	Owen Sound.
.....	.....	.....	.....	.....	.....	.....	.....	37	5	49	Orangeville.
.....	.....	.....	.....	.....	.....	.....	1	24	.....	50	Perth.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	Picton.
1	.....	.....	1	.....	.....	.....	.....	22	2	63	Pembroke.
.....	1	.....	.....	2	.....	.....	.....	43	13	130	Peterboro'.
.....	.....	2	.....	1	.....	6	.....	2	.....	116	Port Arthur.
.....	.....	3	.....	.....	.....	.....	.....	3	2	184	Rat Portage.
.....	.....	.....	.....	.....	.....	.....	.....	18	1	34	Simcoe.
.....	.....	.....	.....	.....	.....	.....	.....	4	2	72	St. Catharines.
.....	.....	.....	.....	.....	.....	.....	.....	90	3	228	Sarnia.
.....	.....	1	.....	.....	2	.....	.....	35	1	77	Stratford.
.....	2	.....	1	.....	.....	12	1	22	16	206	Sandwich.
.....	1	.....	1	.....	.....	23	.....	7	10	181	St. Thomas,
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	22	Sault Ste. Marie.
1	6	5	.....	1	.....	74	.....	217	3	2180	Toronto.
1	.....	.....	.....	.....	.....	5	.....	9	.....	27	Walkerton.
.....	.....	1	.....	.....	.....	6	.....	60	.....	135	Woodstock.
.....	.....	.....	1	.....	.....	1	.....	154	5	222	Welland.
1	.....	2	.....	.....	.....	.....	.....	33	4	66	Whitby.
.....	.....	.....	.....	.....	.....	.....	.....	3	.....	18	Lock-ups—Bracebridge.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Gore Bay.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Little Current.
1	.....	.....	.....	1	.....	.....	.....	.....	1	18	Manitowaning.
2	.....	4	.....	2	.....	.....	.....	.....	12	35	Mattawa.
.....	1	.....	.....	.....	.....	.....	.....	.....	.....	13	Parry Sound.
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Minden.
....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	Haliburton.
.....	.....	.....	.....	.....	.....	.....	.....	1	.....	3	Sudbury.
14	15	27	8	7	4	204	6	1431	140	7260	Totals.

TABLE NO. 9.

Shewing the total number of prisoners, male and female, *sentenced* under each offence during the year.

OFFENCES.	Male.	Female.	Total.
Abusive and obscene language	50	11	61
Arson	8	.....	8
Assault	325	30	355
Assault, felonious	78	.....	78
Attempted suicide	4	.....	4
Bigamy	4	.....	4
Breaches of the peace	28	.....	28
Breaches of by-laws	47	.....	47
Burglary	22	.....	22
Contempt of court	97	5	102
Carrying unlawful weapons	28	.....	28
Counterfeiting and passing counterfeit money	4	.....	4
Cutting and wounding, and attempting same	8	.....	8
Cruelty to animals	9	.....	9
Deserting employment	4	.....	4
Destroying and injuring property	81	4	85
Drunk and disorderly	2375	596	2971
Embezzlement	19	.....	19
Escaping from or obstructing constables	29	.....	29
Escaping from prisons	6	.....	6
Forgery	15	.....	15
Fraud and obtaining money or goods under false pretences	28	4	32
Giving liquor to Indians	16	.....	16
Horse, cattle or sheep stealing	39	.....	39
Housebreaking and robbery	78	.....	78
Indecent assault and exposure	26	2	28
Inmates and frequenters of houses of ill-fame	37	66	103
Keeping houses of ill-fame	17	55	72
Larceny	956	146	1102
Manslaughter	8	.....	8
Misdemeanor	9	.....	9
Murder	3	.....	3
Perjury	4	.....	4
Prostitution	.....	23	23
Rape and assault with intent	14	.....	14
Receiving stolen goods	15	.....	15
Selling liquor without license	25	2	27
Shooting with intent	8	.....	8
Stabbing	7	.....	7
Threatening and seditious language	4	.....	4
Trespass	196	8	204
Unlawful shooting	6	.....	6
Vagrancy	1198	233	1431
Other offences not enumerated	126	14	140
Total	6061	1199	7260

TABLE NO. 10.

Shewing the nationalities, religious denominations, social status, and habits of the prisoners *committed* during the year.

NAME OF GAOL.	Nationalities.						Religious Denominations.					Social and Educational State.					
	Canadian.	English.	Irish.	Scotch.	United States.	Other Countries.	Roman Catholic.	Church of England.	Presbyterians.	Methodists.	Other denominations.	Married.	Unmarried.	Temperate.	Neither read nor write.	Intemperate.	Total.
Barrie	147	70	67	34	22	8	90	109	69	46	34	152	196	72	77	271	348
Berlin	23	9	5	8	4	14	16	15	8	6	18	19	44	11	29	34	63
Belleville	103	20	39	4	9	3	49	42	4	68	15	80	98	60	66	112	178
Brantford	112	21	23	6	9	4	37	79	6	33	20	60	115	67	53	122	175
Brampton	37	46	33	16	14	5	38	59	36	12	6	25	126	25	32	119	151
Brockville	112	15	93	3	11	11	111	82	23	18	11	79	166	31	25	220	245
Cayuga	49	2	12	....	5	....	15	9	2	33	9	36	32	10	23	45	68
Cornwall	50	7	3	1	6	1	36	15	10	7	....	30	38	33	27	41	68
Cobourg	70	21	27	2	6	1	39	43	15	26	4	44	83	25	34	93	127
Chatham	85	18	19	8	20	3	37	39	21	50	6	67	86	42	91	62	153
Goderich	47	10	22	9	1	1	20	27	29	9	5	42	48	14	41	49	90
Guelph	83	13	33	8	9	1	49	38	31	28	1	42	105	33	68	79	147
Hamilton	418	158	226	67	59	26	375	303	133	106	37	418	536	171	123	831	954
Kingston	64	34	65	5	9	1	75	74	12	17	....	41	137	57	33	145	178
London	434	194	246	48	60	22	346	349	99	152	58	327	677	125	343	661	1004
Lindsay	43	11	19	2	....	....	28	24	9	12	2	14	61	17	14	61	75
L'Orignal	18	1	3	....	1	....	15	3	4	....	1	19	4	11	13	10	23
Milton	30	58	26	18	5	3	20	82	28	4	6	17	123	21	12	128	140
Napanee	53	7	7	....	4	1	13	23	3	26	7	31	41	6	32	40	72
Ottawa	437	64	142	20	33	17	465	153	56	29	10	318	395	243	146	567	713
Owen Sound	88	30	38	26	8	10	45	50	45	28	32	77	123	40	80	120	200
Orangeville	24	5	20	5	1	1	5	21	11	7	12	25	31	32	14	42	56
Perth	43	3	15	6	1	2	28	14	22	5	1	27	43	24	31	39	70
Picton	50	7	7	1	....	....	14	20	8	17	6	31	34	9	6	59	65
Pembroke	61	6	14	5	....	27	67	20	13	3	10	37	76	42	48	65	113
Peterborough	48	29	52	8	6	5	69	35	20	22	2	37	111	33	48	100	148
Port Arthur	254	144	177	53	140	66	438	193	92	33	78	199	635	135	102	732	834
Rat Portage	98	41	44	21	26	6	83	73	41	9	30	66	170	118	38	198	236
Simcoe	47	16	9	2	5	2	20	26	5	15	15	33	48	19	30	51	81
St. Catharines	50	9	20	5	10	3	41	25	9	18	4	30	67	22	17	80	97
Sarnia	180	25	70	10	8	2	143	82	39	25	6	48	247	190	93	202	295
Stratford	61	18	39	15	10	12	32	35	44	26	18	78	77	37	92	63	155
Sandwich	98	24	23	14	70	29	114	40	12	62	30	114	144	75	84	174	258
St. Thomas	114	22	56	22	47	6	89	54	38	54	32	97	170	47	70	197	267
Sault Ste. Marie	19	7	4	1	6	....	13	8	8	7	1	17	20	11	23	14	37
Toronto	1214	685	939	163	186	64	1313	1247	329	250	112	1062	2189	581	674	2577	3251
Walkerton	30	7	6	10	2	3	7	10	25	8	8	21	37	8	41	17	58
Woodstock	134	78	62	34	29	4	103	116	52	52	18	72	269	69	123	218	341
Welland	101	44	90	18	44	3	126	101	32	35	6	54	246	53	62	238	300
Whitby	46	20	27	3	4	1	29	30	16	15	11	32	69	22	43	58	101
Lock-ups—																	
Bracebridge	8	7	8	....	....	....	9	10	2	2	....	6	17	5	18	5	23
Gore Bay	1	....	....	....	....	....	1	....	....	....	....	1	....	....	1	....	1
Little Current	1	1	....	....	....	....	....	....	....	1	1	1	1	....	....	2	2
Manitowaning	15	1	2	....	....	....	12	3	1	2	....	7	11	6	4	14	18
Mattawa	25	3	6	3	3	3	26	10	3	1	3	11	32	6	10	33	43
Parry Sound	12	5	....	2	3	....	4	4	3	10	1	10	12	4	20	2	22
Haliburton	1	....	....	....	....	....	1	....	....	....	....	....	1	....	1	....	1
Sudbury	29	4	2	....	....	1	16	6	2	1	11	12	24	24	25	11	36
Totals	5267	2020	2840	686	896	372	4722	3801	1470	1390	698	4066	8015	2686	3080	9001	12081

TABLE

Shewing the occupations, trades or callings

NAME OF GAOL.	Agents and Commercial Travellers.	Auctioneers.	Bakers.	Barbers.	Bartenders.	Blacksmiths and Boilermakers.	Boot and Shoemakers.	Boys (no occupation).	Brewers and Distillers.	Bri knakers and Bricklayers.	Broom, Brush and Basket-makers.	Butchers.	Cabinetmakers and Upholsterers.	Carpenters and Joiners.	Carriage and Waggonmakers.	Cigarmakers.	Clerks, Bookkeepers and Students.
Barrie	....	....	....	2	....	5	15	6	....	2	....	5	2	6	3	5	....
Berlin	1	....	....	....	....	1	....	....	....	....	....	2	1	2	....	....	1
Belleville	....	....	....	....	....	....	4	3	....	....	1	....	3	6	1	1	....
Brantford	....	....	1	1	2	1	4	7	1	....	....	....	....	6	....	2	....
Brampton	....	....	1	....	....	5	1	2	....	....	....	....	2	....	2	....	....
Brockville	....	....	....	2	2	2	2	....	....	1	1	....	2	5	....	....	....
Cayuga	....	....	....	....	1	....	....	....	....	....	....	....	1	....	....	....	....
Cornwall	....	....	....	....	....	....	1	4	2	....	....	....	....	6	....	....	....
Cobourg	1	....	....	....	....	2	5	2	....	....	1	....	1	6	....	....	1
Chatham	....	....	1	2	....	1	4	2	....	....	....	....	1	4	1	....	1
Goderich	1	....	....	1	1	1	2	3	....	1	....	....	....	7	....	....	....
Guelph	....	....	....	....	....	....	3	12	....	5	....	1	....	4	....	....	6
Hamilton	1	....	2	4	4	17	25	56	2	6	3	1	7	18	2	20	14
Kingston	....	....	1	....	1	....	4	....	....	....	....	1	....	3	....	....	4
London	11	....	7	6	....	30	22	56	1	8	....	7	7	20	6	21	11
Lindsay	....	....	1	....	....	1	....	....	....	....	....	....	....	2	....	....	2
L'Orignal	2	....	....	....	....	....	2	....	....	....	....	....	....	2	1	....	....
Milton	....	....	....	2	....	1	2	....	....	1	....	2	....	2	....	....	....
Napanee	1	....	....	....	....	....	1	....	....	....	....	....	....	4	....	....	....
Ottawa	1	....	3	4	....	2	11	31	....	4	....	7	3	18	2	....	23
Owen Sound	....	....	....	1	....	3	5	1	....	1	....	2	1	12	....	....	4
Orangeville	1	....	....	....	....	....	1	....	....	....	....	....	....	....	....	....	....
Perth	2	....	....	....	....	1	1	1	....	....	....	....	....	2	1	....	....
Picton	1	....	....	1	....	2	....	....	....	....	....	6	1	2	1	....	....
Pembroke	....	....	....	....	....	....	8	....	....	....	....	....	1	2	....	....	....
Peterboro'	4	....	3	....	4	3	2	1	....	1	....	....	....	1	....	....	3
Port Arthur	....	....	23	1	3	23	10	5	1	14	1	1	2	24	....	1	11
Rat Portage	....	....	....	....	....	3	....	....	....	3	....	1	....	8	....	....	7
Simcoe	2	....	1	1	....	2	2	1	....	1	....	....	....	3	....	....	....
St. Catharines	....	....	....	....	1	2	1	4	....	....	....	....	....	3	....	2	1
Sarnia	....	....	....	2	1	....	....	....	....	....	....	2	....	4	....	....	2
Stratford	2	9	....	....	2	1	2	2	....	....	....	1	1	7	....	3	2
Sandwich	1	....	3	....	7	5	1	....	1	....	....	3	1	7	1	....	8
St. Thomas	1	....	....	2	....	6	9	16	....	4	....	....	....	4	2	1	4
Sault Ste. Marie	1	....	1	....	....	1	....	....	....	....	....	....	....	3	....	....	1
Toronto	35	....	18	8	5	40	78	91	1	37	6	15	27	71	....	16	71
Walkerton	1	....	....	....	1	3	2	2	1	....	....	....	....	1	....	....	....
Woodstock	3	....	2	2	....	11	8	....	....	2	....	3	5	6	....	3	3
Welland	....	....	1	....	....	4	11	3	....	....	....	2	....	2	1	1	1
Whitby	....	2	....	....	....	....	1	6	....	2	1	2	2	....	....	....	2
Lock-ups—																	
Bracebridge	....	....	....	....	....	....	....	....	....	....	....	1	....	....	....	....	....
Gore Bay	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Little Current	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Manitowaning	....	....	....	....	....	1	....	....	....	....	....	....	....	....	1	....	....
Mattawa	....	....	1	....	....	1	....	....	....	....	....	....	....	3	....	....	1
Parry Sound	....	....	....	1	....	....	....	3	....	....	....	1	....	....	....	....	....
Minden	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Haliburton	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	1
Sudbury	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
	73	11	70	43	35	181	250	320	10	93	14	66	71	291	24	76	185

No. 11.

of the Prisoners *committed* during the year.

Collectors.	Contractors.	Constables.	Coopers.	Dentists.	Doctors and Druggists.	Dressmakers.	Engravers.	Engineers and Machinists.	Farmers and Yeomen.	Gardeners.	Grocers.	Harness and Trunkmakers.	Hatters.	Hotelkeepers and Licensed Victuallers.	Householders.	NAME OF GAOL.
....	....	....	....	2	....	....	....	3	3	4	6	1	....	....	....	Barrie.
....	....	....	....	....	....	....	....	1	3	....	....	....	....	....	1	Berlin.
....	....	....	....	....	1	....	....	8	9	1	....	1	1	....	4	Belleville.
....	....	....	....	....	1	....	....	1	12	....	....	....	....	....	10	Brantford.
....	....	....	....	....	....	....	....	4	1	1	....	....	....	....	....	Brampton.
....	....	....	....	....	2	....	....	3	3	1	....	2	....	1	5	Brockville.
....	....	....	....	....	....	....	....	....	21	....	....	3	....	....	....	Cayuga
....	....	....	....	....	....	....	....	....	5	....	....	....	....	....	....	Cornwall.
....	....	....	1	....	....	....	....	....	4	1	....	....	....	....	....	Cobourg.
1	....	....	1	....	....	....	2	....	14	....	....	....	....	3	....	Chatham.
....	....	....	....	....	....	1	....	....	16	....	....	....	....	2	....	Goderich.
....	....	....	4	....	....	....	....	....	15	1	....	1	....	2	....	Guelph.
....	....	....	4	....	3	....	....	14	10	4	1	2	2	....	27	Hamilton.
....	....	....	....	....	3	....	....	9	3	1	....	....	....	1	....	Kingston.
....	....	2	6	....	6	....	....	14	73	2	1	1	....	4	19	London.
....	....	....	....	....	....	....	....	....	9	....	....	....	....	....	....	Lindsay.
....	....	....	....	....	....	....	....	....	7	....	....	....	....	....	....	L'Orignal.
....	....	....	....	....	....	2	....	2	5	....	....	....	....	....	....	Milton.
....	....	....	....	....	....	1	1	5	....	....	....	1	....	....	....	Napanee.
....	....	1	1	....	1	....	....	9	13	3	....	4	....	2	38	Ottawa.
....	....	....	4	....	....	3	....	4	9	....	1	1	....	1	....	Owen Sound.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Orangeville.
....	....	....	....	....	....	....	....	....	11	....	....	....	....	....	....	Perth.
....	....	....	4	....	....	....	....	2	7	....	....	....	....	....	....	Picton.
....	....	....	....	....	....	....	....	....	22	....	....	....	....	....	....	Pembroke.
....	....	....	....	....	....	....	....	2	8	....	....	....	....	....	....	Peterboro'.
....	6	....	5	....	....	....	....	22	3	....	....	2	....	3	1	Port Arthur.
....	....	4	....	1	1	....	....	1	3	1	....	....	....	....	....	Rat Portage.
....	....	....	....	....	....	....	....	1	19	1	....	....	....	....	....	Simcoe.
....	....	....	2	....	....	....	....	2	1	....	....	1	....	1	3	St. Catharines.
....	....	....	....	....	....	....	....	....	1	....	....	....	....	....	....	Sarnia.
....	....	....	....	....	....	....	....	2	14	....	2	1	....	1	....	Stratford.
....	....	....	....	....	....	....	....	4	11	1	....	....	....	1	40	Sandwich.
....	....	....	2	....	....	....	1	7	11	3	....	....	....	1	6	St. Thomas.
....	....	....	....	....	....	....	....	1	5	1	....	1	....	....	....	Sault Ste. Marie.
1	2	....	16	....	1	12	7	34	23	8	3	12	5	5	....	Toronto.
....	....	....	1	....	....	1	....	....	7	....	....	....	....	....	....	Walkerton.
....	....	....	1	..	....	1	....	13	4	5	....	1	....	2	....	Woodstock.
....	....	....	2	....	..	....	....	8	11	....	....	....	....	....	....	Welland.
....	....	....	1	....	....	....	....	....	7	....	1	....	....	....	....	Whitby.
																Lock-ups—
....	....	....	....	....	....	....	2	....	1	....	....	1	....	....	....	Bracebridge.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Gore Bay.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Little Current.
....	....	....	....	....	....	....	....	....	1	....	....	....	....	1	....	Manitowaning.
....	....	....	....	....	....	....	....	3	1	....	....	....	....	....	....	Mattawa.
....	....	....	....	....	....	....	....	....	4	....	....	....	....	1	....	Parry Sound.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Minden.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Haliburton.
....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	Sudbury.
2	8	7	55	3	19	21	13	179	410	39	15	36	8	32	154	

TABLE

Shewing the occupations, trades or callings

NAME OF GAOL.	Labourers.	Lawyers.	Lumbermen.	Masons and Stonecutters.	Merchants and Traders.	Millwrights and Wheelwrights.	Millers.	Moulders.	Pedlars and Hawkers.	Printers.	Plumbers and Painters.	Photographers.	Prostitutes.	Railway Employees.	Sailors and Fishermen.
Barrie	166	....	....	1	1	....	....	5	1	3	1	2	.....	....	6
Berlin	26	....	....	3	2	....	1	3	.....	....	2	....	.....	....	1
Belleville	79	....	....	5	2	....	....	1	.....	....	4	....	21	....	1
Brantford	83	....	....	....	1	....	....	5	.....	....	5	....	9	....	.....
Brampton	92	....	....	....	....	....	....	6	.....	....	8	1	.....	....	6
Brockville	147	....	....	2	....	....	..	1	2	....	8	....	.....	..	4
Cayuga	27	....	....	....	....	....	....	....	.....	1	.....	....	.....	....	2
Cornwall	38	....	....	....	1	....	....	....	.....	....	.....	....	.....	....	.....
Cobourg	67	....	....	3	....	....	....	7	.....	....	3	1	1	2	5
Chatham	68	....	1	2	1	....	..	1	2	1	6	....	.....	4	3
Goderich	23	....	....	....	....	....	1	....	.....	2	.....	....	.....	....	1
Guelph	53	....	....	1	2	....	....	4	.....	1	.....	....	.....	....	3
Hamilton	367	....	....	14	4	....	2	45	8	3	33	....	.....	....	11
Kingston	64	....	....	2	1	....	....	3	1	2	3	....	1	....	15
London	358	1	2	2	4	1	1	22	19	12	25	3	.....	9	7
Lindsay	43	....	....	2	....	1	....	1	.....	....	2	....	3	....	....
L'Orignal	8	....	....	....	....	....	....	....	.....	....	.....	....	.....	....	.....
Milton	103	....	....	1	....	....	....	2	.....	....	7	....	....	....	.....
Napanee	34	2	....	2	2	....	....	1	.....	....	.....	....	.....	....	.....
Ottawa	323	....	....	2	3	....	....	1	11	9	15	....	76	....	4
Owen Sound	106	....	....	....	1	....	....	1	.....	1	.....	....	9	....	4
Orangeville	30	....	....	....	....	....	....	....	.....	....	2	....	.....	....	.....
Perth	32	....	....	....	....	....	....	....	.....	1	.....	....	.....	....	.....
Picton	21	....	....	2	....	....	....	....	1	....	2	....	.....	5	.....
Pembroke	41	....	12	1	1	1	....	....	1	....	.....	....	.....	2	.....
Peterboro'	96	....	....	2	....	....	....	2	.....	1	7	....	.....	1	.....
Port Arthur	509	1	1	14	6	...	2	6	1	8	14	1	1	25	42
Rat Portage	148	....	1	1	5	....	....	....	.....	1	2	....	14	2	4
Simcoe	20	....	1	2	1	....	...	1	....	....	.....	....	.....	....	2
St. Catharines	33	....	....	....	....	....	....	1	2	....	9	....	5	1	11
Sarnia	264	....	....	....	1	....	....	....	.....	....	.....	....	3	....	.....
Stratford	59	....	....	....	2	....	1	4	1	2	1	....	5	3	1
Sandwich	79	....	....	2	....	2	....	1	.....	1	6	....	4	4	3
St. Thomas	118	....	....	1	....	....	....	3	2	3	3	....	1	9	1
Sault Ste. Marie	16	....	....	....	....	....	1	....	.....	....	.....	....	.....	....	.....
Toronto	1141	3	....	19	28	....	1	45	39	43	113	3	291	8	20
Walkerton	17	....	1	....	1	....	....	1	.....	....	1	....	.....	....	.....
Woodstock	167	....	....	1	1	....	....	10	1	5	2	....	.....	2	7
Welland	180	....	....	10	....	....	....	6	.....	....	9	....	.....	2	9
Whitby	51	....	....	1	....	....	....	2	....	....	3	....	.....	....	2
Lock-ups—															
Bracebridge	16	....	....	1	....	....	....	....	.....	....	.....	....	.....	....	.....
Gore Bay	1	....	....	....	....	....	....	....	.....	....	.....	....	.....	....	.....
Little Current	1	....	....	....	....	....	....	....	.....	....	.....	....	.....	1	.....
Manitowaning	.....	....	2	....	....	....	....	....	.....	....	.....	....	.....	....	.....
Mattawa	28	....	....	1	....	....	....	....	.....	....	.....	....	.....	....	1
Parry Sound	4	....	1	....	....	....	....	....	....	....	.....	....	1	....	.....
Minden	.....	....	....	....	....	....	....	....	.....	....	.....	....	.....	....	.....
Haliburton	.....	....	....	....	....	....	....	....	.....	....	.....	....	.....	....	.....
Sudbury	6	....	....	....	....	....	....	....	24	....	.....	....	.....	....	.....
	5363	7	22	100	71	5	10	190	116	100	296	11	445	80	176

No. 11.—*Continued.*

of the Prisoners *committed* during the year.

School and Music Teachers.	Servants and Washerwomen.	Tailors.	Tanners and Currriers.	Teamsters, Drivers and Grooms.	Telegraph Operators.	Tinsmiths.	Watchmakers and Jewellers.	Weavers and Woolworkers.	Whitewashers.	Woodturners.	No Occupation.	Other Occupations not enumerated.	Total.	NAME OF GAOL.
1	26	3	....	.....	....	3	....	2	4	3	4	19	348	Barrie.
....	4	1	1	.....	....	....	....	....	....	.....	1	5	63	Berlin.
....	4	2	....	.....	....	....	....	....	1	.....	3	11	178	Belleville.
....	12	1	1	2	....	....	....	1	....	.....	.....	6	175	Brantford.
....	6	2	....	2	....	2	....	2	....	.....	4	1	151	Brampton.
....	24	4	....	.....	....	1	....	....	1	.....	1	16	245	Brockville.
....	6	.....	....	1	....	3	....	....	....	.....	.....	2	68	Cayuga.
....	7	2	....	.....	....	....	....	1	....	.....	.....	1	68	Cornwall.
1	3	1	....	1	....	1	....	2	....	.....	4	.....	127	Cobourg.
....	11	6	....	....	....	2	....	....	....	1	3	3	153	Chatham.
....	1	2	....	...	....	4	2	....	...	.....	15	3	90	Goderich.
....	4	5	....	.....	....	1	....	....	....	.....	11	8	147	Guelph.
....	135	9	5	3	2	9	10	1	5	1	.....	38	954	Hamilton.
....	8	7	2	.....	1	....	....	....	....	.....	32	5	178	Kingston.
2	136	14	3	21	1	3	1	1	3	1	2	9	1004	London.
....	3	2	....	.....	....	....	....	1	1	1	.....	.....	75	Lindsay.
....	.....	1	....	.....	....	....	....	....	....	.....	.....	.....	23	L'Orignal.
....	5	1	....	.....	1	....	....	....	....	.....	.....	1	140	Milton.
....	9	2	....	.....	....	....	....	....	....	.....	1	5	72	Napanee.
2	35	7	....	9	.....	3	....	....	....	.....	12	20	713	Ottawa.
2	5	.....	....	.....	....	5	....	3	....	....	2	9	200	Owen Sound.
....	5	.....	....	.....	....	....	....	....	....	.....	17	.....	56	Orangeville.
....	12	2	....	.....	....	1	....	.....	....	1	3	2	70	Perth.
....	1	.....	....	.....	....	1	....	.....	....	.....	2	3	65	Picton.
....	.....	.....	....	.....	....	....	....	1	....	.....	17	3	113	Pembroke.
....	1	1	....	1	....	....	1	....	....	1	1	1	148	Peterboro'.
....	4	3	....	14	2	3	....	....	....	.....	.....	5	834	Port Arthur.
....	1	.....	....	1	1	3	....	....	....	.....	8	11	236	Rat Portage.
....	3	2	....	2	....	2	....	1	1	.....	7	2	81	Simcoe.
1	4	1	....	.....	....	....	....	2	....	.....	1	2	97	St. Catharines.
....	6	1	....	.....	....	....	....	....	....	.....	6	2	295	Sarnia.
1	11	1	....	2	....	....	1	1	....	.....	.....	7	155	Stratford.
....	30	3	....	2	2	....	1	2	....	.....	21	.....	258	Sandwich.
1	19	5	1	.....	....	1	1	....	....	.....	5	13	267	St. Thomas.
....	.....	.....	....	1	....	....	....	....	....	.....	4	.....	37	Sault. Ste. Marie.
4	220	55	2	95	4	21	12	10	16	11	275	124	3251	Toronto.
....	1	.....	....	.....	....	....	....	1	....	.....	12	3	58	Walkerton.
....	14	4	....	8	....	....	....	4	1	1	33	5	341	Woodstock.
....	12	1	....	9	1	...	....	....	....	.....	.....	14	300	Welland.
....	6	.....	....	1	....	....	....	....	....	3	.....	5	101	Whitby.
														Lock-ups—
....	1	.....	....	.....	....	....	....	....	....	.....	.....	.....	23	Bracebridge.
....	.....	.....	....	.....	....	....	....	....	....	.....	.....	.....	1	Gore Bay.
....	.....	.....	....	.....	....	....	....	....	....	.....	.....	.....	2	Little Current.
....	.....	.....	....	.....	....	....	....	....	....	.....	12	.....	18	Manitowaning.
....	.....	.....	....	.....	....	....	....	....	1	.....	2	.....	43	Mattawa.
....	.....	.....	....	.....	....	....	....	....	....	.....	5	1	22	Parry Sound.
....	.....	.....	....	.....	....	....	....	....	....	.....	.....	.....	.....	Minden.
....	.....	.....	....	.....	....	....	....	....	....	.....	.....	.....	1	Haliburton.
....	.....	.....	....	.....	....	....	....	....	....	.....	6	.....	36	Sudbury.
15	795	151	15	175	15	66	32	36	34	24	532	365	12081	

TABLE

Shewing the number of escapes and deaths, the revenue derived from prison and lowest number of prisoners

NAME OF GAOL.	Prisoners who escaped and evaded recapture.	Prisoners who escaped and were recaptured.	Prisoners who died.	Actual cash revenue derived from prison labour.
				$ c.
Barrie			2	
Berlin				
Belleville				
Brantford				
Brampton			1	
Brockville			1	
Cayuga			2	
Cornwall				
Cobourg				
Chatham				
Goderich			2	
Guelph				
Hamilton	1		1	
Kingston				
London			2	
Lindsay				
L'Orignal				
Milton			1	
Napanee			2	
Ottawa			1	211 75
Owen Sound			5	
Orangeville	1	1	2	
Perth	1		1	36 00
Picton				
Pembroke		1		
Peterboro'				
Port Arthur	1	2	2	
Rat Portage	1	1		24 75
Simcoe				
St. Catharines				
Sarnia			4	
Stratford				
Sandwich	3	2	1	
St. Thomas		2		
Sault Ste. Marie				
Toronto		1	8	
Walkerton				
Woodstock	1			230 00
Welland		2	1	
Whitby				
Lock ups—				
Bracebridge				
Gore Bay				
Little Current				
Manitowaning				
Mattawa	1			
Parry Sound				
Minden				
Haliburton				
Sudbury				
Totals	10	12	39	502 50

No. 12.

labour, the cost of diet, the accommodation of the various gaols, and the highest in custody during the year.

Cost of daily rations for prisoners.	Are regulations with respect to dietary observed?	Number of cells in each gaol.	Number of distinct corridors or wards in each gaol.	Greatest number of prisoners confined in gaol at any time during the year.	Lowest number of prisoners confined in gaol at any time during the year.	NAME OF GAOL.
cts.						
9 1-8	Yes.	24	8	40	10	Barrie.
9 7-8	Yes.	25	5	11	.....	Berlin.
8 1-3	Yes.	18	4	24	6	Belleville.
7 1-3	Yes.	24	6	27	5	Brantford.
7	Yes.	25	4	19	1	Brampton.
6 1-3	Yes.	29	3	30	10	Brockville.
10	Yes.	14	4	13	1	Cayuga.
13 1-2	Yes.	17	3	9	2	Cornwall.
9 3-4	Yes.	24	5	24	3	Cobourg.
7	Yes.	26	4	16	5	Chatham.
9	Yes.	12	4	18	3	Goderich.
8	Yes.	36	8	18	4	Guelph.
7	Yes.	60	6	62	22	Hamilton.
10 1-2	Yes.	53	9	28	10	Kingston.
7 1-2	Yes.	57	9	77	26	London.
6 3-4	Yes.	18	4	17	1	Lindsay.
9	Yes.	18	6	7	.....	L'Orignal.
7 2-5	Yes.	23	4	21	.....	Milton.
7 1-2	Yes.	18	4	9	.....	Napanee.
7 1-2	Yes.	96	8	47	21	Ottawa.
13 1-2	Yes.	31	6	27	8	Owen Sound.
8 2-3	Yes.	23	6	16	9	Orangeville.
7 1-2	Yes.	18	4	20	5	Perth.
7	Yes.	26	6	6	.....	Picton.
8	Yes.	24	4	20	7	Pembroke.
13 1-8	Yes.	18	4	25	9	Peterboro'.
14 3-4	Yes.	15	3	37	6	Port Arthur.
54 1-4	Yes.	7	2	16	1	Rat Portage.
7 1-3	Yes.	24	8	11	2	Simcoe.
9 1-3	Yes.	40	8	15	2	St. Catharines.
9 1-2	Yes.	19	5	22	6	Sarnia.
9	Yes.	24	6	16	2	Stratford.
.....	Yes.	34	4	31	8	Sandwich.
13	Yes.	16	4	27	4	St. Thomas.
16	Yes.	14	3	12	1	Sault Ste. Marie.
7 1-2	Yes.	184	12	216	105	Toronto.
8 3-4	Yes.	24	8	10	1	Walkerton.
.....	Yes.	32	5	35	5	Woodstock.
8 1-2	Yes.	50	5	81	6	Welland.
8	Yes.	25	5	20	2	Whitby.
						Lock-ups—
30	Yes.	5	4	1	.....	Bracebridge.
30	Yes.	5	2	1	.....	Gore Bay.
30	Yes.	5	2	1	.....	Little Current.
30	Yes.	5	4	2	1	Manitowaning,
30	Yes.	5	1	8	1	Mattawa.
30	Yes.	5	4	4	1	Parry Sound.
30	.....	.....	.....	.....	.....	Minden.
30	.....	1	1	1	.....	Haliburton.
	.....	5	2	3	.....	Sudbury.
.....	.....	.....	.....	.....	.....	

TABLE

Shewing the number of prisoners, how maintained, cost of maintenance, and

NAME OF GAOL.	How Maintained.					Gaol	
	Total number of prisoners committed during the year.	Number of prisoners whose maintenance was defrayed by Province.	Number of prisoners whose maintenance was defrayed by the Municipalities.	Number of days custody of Government prisoners.	Number of days custody of Municipal prisoners.	Cost of food, fuel and clothing.	Cost of official salaries.
						$ c.	$ c.
Barrie	348	60	288	2886	5250	1679 63	1823 25
Berlin	63	19	44	441	1114	335 33	1200 00
Belleville	178	69	109	1715	3386	696 00	1400 00
Brantford	175	53	122	1402	3419	1310 80	1650 00
Brampton	151	5	146	219	1611	587 41	1150 00
Brockville	245	32	213	981	6132	1001 86	1650 00
Cayuga	68	19	49	224	1522	550 70	1185 00
Cornwall	68	45	23	1105	424	560 05	1240 00
Cobourg	127	48	79	1395	2600	1057 32	1580 00
Chatham	153	58	95	1698	1764	510 91	1512 75
Goderich	90	27	63	840	3064	1050 03	1370 00
Guelph	147	47	100	1371	1918	1327 03	1350 00
Hamilton	954	182	772	3869	10681	2158 00	2900 00
Kingston	178	69	109	1551	4680	2464 61	1510 00
London	1004	152	852	4123	13667	2785 87	3477 00
Lindsay	75	16	59	987	7990	618 54	1100 00
L'Orignal	23	11	12	611	240	224 77	768 00
Milton	140	4	136	144	2302	265 00	1016 00
Napanee	72	.....	72	290	994	335 56	1050 00
Ottawa	713	90	623	3641	8537	2836 10	2150 00
Owen Sound	200	45	155	1367	3862	1627 54	1750 00
Orangeville	56	13	43	306	4346	832 89	1140 00
Perth	70	20	50	713	3171	1144 77	1440 00
Picton	65	12	53	757	175	209 86	852 50
Pembroke	113	38	75	1396	3453	450 57	1281 50
Peterboro'	148	21	127	588	4590	1193 26	1350 00
Port Arthur	834	834	.....	6884	.....	1653 39	1412 50
Rat Portage	236	236	.....	1051	.....	1060 30	1844 00
Simcoe	81	65	16	696	1334	593 78	1050 00
St. Catharines	97	34	63	748	1542	842 89	1640 00
Sarnia	295	47	248	1290	4058	1665 75	1400 00
Stratford	155	29	126	808	2404	960 46	1250 00
Sandwich	258	86	172	2463	3833	1819 19	2050 00
St. Thomas	267	148	119	2914	2065	844 74	1773 30
Sault Ste. Marie	37	37	.....	1686	.....	385 06	1028 50
Toronto	3251	609	2642	10193	49982	9614 86	8381 92
Walkerton	58	18	40	531	1000	434 89	1325 00
Woodstock	341	58	283	1248	4591	1494 26	1800 00
Welland	300	43	257	1355	7205	1872 00	1454 00
Whitby	101	49	52	975	2576	474 35	1475 00
Lock-ups—							
Bracebridge	23	23	.....	82	.....	.....	200 00
Gore Bay	1	1	.....	64	.....	45 65	200 00
Little Current	2	2	.....	5	.....	64 98	200 00
Manitowaning	18	18	.....	131	.....	116 70	200 00
Mattawa	43	17	26	80	15	65 20	300 00
Parry Sound	22	16	6	213	15	87 00	200 00
Minden	.....	.....	.....	.....	.....	.....	.....
Haliburton	1	1	.....	30	.....	.....	150 00
Sudbury	36	36	.....	140	.....	.....	216 00
Total	12081	3562	8519	68207	181312	51909 89	68446 88

No. 13.

salaries of the various gaol officials, for the year ended 30th September, 1884.

Expenditure.					Salaries of				
Cost of repairs.	Total gaol expenditure for the year.	Average cost per prisoner for food, clothing, fuel and repairs.	Average cost per prisoner for salaries and wages.	Average cost per prisoner for entire gaol expenditure.	Gaolers.	Turnkeys.	Matrons.	Gaol Surgeons.	NAME OF GAOL.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
43 05	3545 93	4 95	5 24	10 19	800 00	450 00	195 00	200 00	Barrie.
.....	1535 33	5 35	19 05	24 40	560 00	400 00	140 00	100 00	Berlin.
.....	2096 00	3 91	7 86	11 77	600 00	450 00	200 00	150 00	Belleville.
.....	2960 80	7 49	9 43	16 92	750 00	400 00	300 00	200 00	Brantford.
289 65	2027 09	5 81	7 62	13 43	500 00	400 00	200 00	50 00	Brampton.
11 65	2663 51	4 14	6 73	10 87	1000 00	400 00	150 00	100 00	Brockville.
176 95	1912 65	10 70	17 42	28 12	600 00	365 00	80 00	140 00	Cayuga.
.....	1800 05	8 24	18 24	26 48	740 00	300 00	100 00	100 00	Cornwall.
84 50	2721 82	8 91	12 44	21 35	800 00	500 00	200 00	80 00	Cobourg.
8 55	2032 21	3 39	9 89	13 28	650 00	430 00	200 00	175 00	Chatham.
190 19	2610 22	13 78	15 22	29 00	600 00	500 00	150 00	120 00	Goderich.
.....	2677 03	9 03	9 18	18 21	600 00	450 00	200 00	100 00	Guelph.
112 00	5170 00	2 38	5 42	7 80	1000 00	1300 00	350 00	250 00	Hamilton.
1159 72	5134 33	20 36	8 48	28 84	800 00	360 00	200 00	150 00	Kingston.
254 48	6517 35	3 03	3 46	6 49	700 00	2070 50	456 50	250 00	London.
.....	1718 54	8 24	14 66	22 90	500 00	320 00	200 00	80 00	Lindsay.
70 85	1063 62	12 86	33 39	46 25	600 00	*1 50	100 00	50 00	L'Orignal.
6 00	1287 00	1 93	7 25	9 18	500 00	366 00	100 00	50 00	Milton.
100 00	1485 56	6 05	14 58	20 63	475 00	400 00	100 00	75 00	Napanee.
1365 00	6351 10	5 89	3 01	8 90	600 00	1000 00	350 00	200 00	Ottawa.
90 00	3467 54	8 57	8 75	17 32	700 00	500 00	300 00	250 00	Owen Sound.
.....	1972 89	14 87	20 36	35 23	600 00	400 00	100 00	40 00	Orangeville.
32 30	2617 07	16 81	20 57	37 38	800 00	400 00	160 00	80 00	Perth.
17 61	1079 97	3 50	13 11	16 61	400 00	300 00	100 00	50 00	Picton.
.....	1732 07	3 98	11 34	15 32	600 00	456 50	125 00	100 00	Pembroke.
37 72	2580 98	8 32	9 12	17 44	650 00	400 00	150 00	150 00	Peterboro'.
77 33	3143 22	2 08	1 69	3 77	500 00	692 50	120 00	100 00	Port Arthur.
92 85	2997 15	4 88	7 81	12 69	900 00	744 00	.....	200 00	Rat Portage.
151 25	1795 03	9 19	12 96	22 15	400 00	350 00	200 00	100 00	Simcoe.
183 81	2666 70	10 58	16 91	17 49	720 00	420 00	200 00	300 00	St. Catharines.
269 00	3334 75	6 56	4 74	11 30	650 00	400 00	200 00	150 00	Sarnia.
14 75	2225 21	6 29	8 06	14 35	450 00	425 00	250 00	125 00	Stratford.
615 45	4484 64	9 43	7 94	11 11	600 00	1050 00	200 00	200 00	Sandwich.
.....	2618 04	3 17	6 64	9 81	600 00	823 30	200 00	150 00	St. Thomas.
20 56	1434 12	10 96	27 79	38 75	400 00	328 50	100 00	200 00	Sault Ste. Marie.
350 91	18347 69	3 06	2 58	5 64	1500 00	5601 92	280 00	1000 00	Toronto.
580 36	2340 25	17 50	22 84	40 34	650 00	375 00	200 00	100 00	Walkerton.
143 24	3437 50	4 80	5 27	10 07	800 00	500 00	200 00	300 00	Woodstock.
479 00	3805 00	7 83	4 85	12 68	600 00	450 00	254 00	154 00	Welland.
55 47	2004 82	5 24	14 61	19 85	850 00	300 00	125 00	200 00	Whitby.
									Lock ups—
.....	200 00	.....	8 69	.....	200 00	.....	.....	.....	Bracebridge.
50	246 15	46 15	200 00	246 15	200 00	.....	.....	.....	Gore Bay.
.....	264 98	32 49	100 00	132 49	200 00	.....	.....	.....	Little Curr
.....	316 70	6 48	11 11	17 59	200 00	.....	.....	.....	Manitowaning.
30 80	396 00	2 23	6 98	9 21	300 00	.....	.....	.....	Mattawa.
10 00	297 00	4 40	9 09	13 49	200 00	.....	.....	.....	Parry Sound.
.....	.....	.....	.....	.....	150 00	.....	.....	.....	Minden.
.....	150 00	.....	150 00	150 00	150 00	.....	.....	.....	Haliburton.
.....	216 66	.....	6 02	6 02	300 00	.....	.....	.....	Sudbury.
7125 50	127482 27	4 89	5 66	10 55					Total.

*Per day—only hired when required.

TABLE 14.

Shewing the daily cost per prisoner in each of the gaols, excluding the district lock-ups, in the year ending 30th September, 1884.

NAME OF GAOL.	Number of prisoners committed during the year.	Total days stay of prisoners during the year.	Cost of fuel, food and clothing.	Average cost per day for each prisoner.
			$ c.	Cents.
Barrie	348	8136	1679 63	20·64
Berlin	63	1555	335 33	21·56
Belleville	178	5101	696 00	13·64
Brantford	175	4821	1310 80	27·19
Brampton	151	1830	587 44	32·10
Brockville	245	7113	1001 86	14·08
Cayuga	68	1746	550 70	31·54
Cornwall	68	1529	560 05	36·63
Cobourg	127	3995	1057 32	27·00
Chatham	153	3462	510 91	14·75
Goderich	90	3904	1050 03	26·81
Guelph	147	3289	1327 03	43·71
Hamilton	954	14550	2158 00	14·83
Kingston	178	6231	2464 61	39·55
London	1004	17790	2785 87	15·66
Lindsay	75	8977	618 54	6·88
L'Orignal	23	851	224 77	26·41
Milton	140	2446	265 00	10·83
Napanee	72	1284	335 56	26·13
Ottawa	713	12178	2836 10	23·29
Owen Sound	200	5229	1627 54	31·12
Orangeville	56	4652	832 89	17·90
Perth	70	3884	1144 77	29·52
Picton	65	932	209 86	22·51
Pembroke	113	4849	450 57	9·29
Peterboro'	148	5178	1193 26	23·04
Port Arthur	834	6884	1653 39	24·07
Rat Portage	236	1051	1060 30	10·08
Simcoe	81	2030	593 78	29·25
St. Catharines	97	2290	842 89	36·81
Sarnia	295	5348	1665 75	31·14
Stratford	155	3212	960 46	29·90
Sandwich	258	6296	1819 19	28·89
St. Thomas	267	4979	844 74	16·96
Sault Ste. Marie	37	1686	385 06	22·83
Toronto	3251	60175	9614 86	15·98
Walkerton	58	1531	434 89	28·40
Woodstock	341	5839	1494 26	25·59
Welland	300	8560	1872 00	21·87
Whitby	101	3351	474 35	14·15
Total	11935	248744	51530 31	20·71

SEPARATE REPORTS UPON COMMON GAOLS.

Barrie Gaol.

	1882.	1883.	1884.
Prisoners committed during the year	248	225	348
Greatest number confined at any one time	31	29	40
Number of re-committals	45	44	55
Total cost of maintaining gaol	$3,710.35	$4,508.25	$3,545.93

I made an inspection of this gaol on the 15th September, and saw the twenty-four prisoners who were in custody. Of the males, there were thirteen under sentence, three for assault, one for larceny, one for want of sureties to keep the peace, and the other eight for vagrancy, drunkenness and minor offences. Three had been committed as insane and one as an idiot. Three were awaiting trial, one for manslaughter and the other two for assault.

Of the females, two were under sentence for vagrancy, one was charged with forgery, and the other had been committed as insane.

At the time of a former inspection attention was called to the fact that no provision was made for heating the corridors occupied by the female prisoners, and also to the defective ventilation of the same. Owing to its structure and its northerly exposure, these defects must cause great discomfort to the unfortunates who happen to be confined therein, especially when they are old or infirm. The Sheriff was therefore requested to again call the attention of the Council to this matter, with a view to having these defects remedied, which can be done easily and cheaply.

The cells in the male corridors were undergoing a thorough cleaning and whitewashing. A great improvement would be effected were iron bedsteads to be substituted for the wooden benches in use, and it is to be hoped the Council will supply the gaol with this more modern and cleanly style of furniture.

The records I found in satisfactory order. A new dietary book was required, and I therefore had one forwarded.

Berlin Gaol.

	1882.	1883.	1884.
Prisoners committed during the year	83	96	63
Greatest number confined at any one time	14	11	11
Number of re-committals	26	18	13
Total cost of maintaining gaol	$1,609.33	$1,707.51	$1,535.33

The report made to the Government by Dr. O'Reilly of his first inspection was as under:—

"The Berlin gaol was inspected by me on the 8th May, 1884. There were only four prisoners in custody, three males and one female. The former were under sentence for larceny, assault and vagrancy respectively, and the latter for six months for vagrancy and disorderly conduct.

"The general condition of the gaol was good. It is an excellent building in structure, and is roomy and convenient.

"The beds and bedding were of an indifferent character, the bedsteads being of wood and difficult to keep clean. Iron bedsteads should be substituted.

"The books were examined and found to be properly kept.

"I regretted to find that the wooden fence which serves the purposes of a wall between the female airing court and the work yard is still in the dilapidated condition reported upon before. It is to be hoped that this will not remain so much longer."

A second inspection was made by Dr. O'Reilly and reported upon to the Government as under:—

"The Berlin gaol was again inspected by me on the 22nd September. Only three prisoners, all men, were in custody. One was under sentence for assault, one for disorderly conduct, and one had just been committed as insane.

"The gaol was in excellent order throughout, except as to the heating apparatus, which is worn out and unsafe, not only as to danger from fire, but as coal is used and the furnace leaks, gas is allowed to escape into the gaol. This defect is of long standing, and I trust that it will not be allowed to continue."

BELLEVILLE GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	208	178	178
Greatest number confined at any one time	20	22	24
Number of re-committals	69	62	44
Total cost of maintaining gaol	$2,198.60	$2,086.00	$2,096.00

I inspected the Belleville gaol on the 18th April, and found sixteen prisoners in custody, ten males and six females. One of the former was committed for larceny, one as insane, and the others for drunkenness and vagrancy. Of the females, two were committed, and subsequently fully certified to as lunatics, one was charged with larceny, and the other three with vagrancy.

The gaol and premises were in a commendable state of neatness and order, with every evidence of the strictest attention on the part of the gaoler and his subordinates in the discharge of their duties. The books shewed that no case of punishment had been recorded for the past twelve months, that up to the date of inspection eighty-eight prisoners had been committed, and that since the year 1861 two of the females, now in custody, had been committed the extraordinary number of ninety-two and one hundred times respectively.

My second official visit to the gaol was made on the 23rd September, when twenty prisoners (fifteen males and five females) were in custody. Of the former two had been committed as lunatics, two were waiting trial for burglary, three for aggravated assault, and one for placing obstructions on the railway track, two were charged with larceny, and one was detained for want of sureties to keep the peace. The remaining four had been committed for drunkenness and minor offences. One female prisoner had been committed as insane, one for keeping a house of ill-fame, one for burglary and the other two for vagrancy.

The gaol was in a very satisfactory condition, both internally and in the enclosures. A decided improvement has been made by bricking up the two doors leading from the male and female corridors and which under certain circumstances might have been a means of communication between the prisoners confined in the respective corridors. These entrances were not absolutely required, as they served no very specific purpose, and by closing them all danger of communication in that way is removed.

The books of record were found to be neatly and properly kept.

BRANTFORD GAOL.

	1882.	1883.	1884.
Prisoners committed during the year.....	252	216	175
Greatest number confined at any one time.	29	18	27
Number of re-committals	127	105	90
Total cost of maintaining gaol	$3,127.19	$2,886.48	$2,960.80

The first inspection of this gaol was made by Dr. O'Reilly on the 2nd January. A copy of his report to the Government is appended, viz:—

"The Brantford gaol was visited by me on the 2nd January, 1884, when sixteen prisoners, twelve males and four females, were found in custody, none of whom, having regard to the nature of their offences, were of an important character. Four of the males were undergoing short sentences for petty larceny, and all the others, as well as the female prisoners, were of the vagrant and drunken and disorderly class. One of the prisoners, an old man, had been in gaol for more than a year, having been sentenced from time to time for vagrancy. He was very ill and helpless, and a most disgusting object. The Grand Jury called attention to this case in the last presentment, but the County authorities do not appear disposed to make any better provision for the care of the old man than to keep him in gaol.

"I saw the prisoners at dinner and examined their food, which consisted of soup, boiled beef and bread. It was in every respect an excellent meal.

"The gaol was found to be clean and in thoroughly good order. The heating arrangements are, however, very unsatisfactory and, to some extent, unsafe. The gaol is heated by a series of stoves, which create a great deal of labour, and in very cold weather they require attention during the whole of the night in order to keep the water pipes from freezing. It is recommended that the County adopt a better system of heating the gaol."

The following report was made to the Government by Dr. O'Reilly, after he had again visited the Brantford gaol:—

"The second inspection of this gaol during the official year was made on the 4th August. On that occasion there were seven men and three women in custody. One of the males was held on a charge of counterfeiting, three were under sentence for larceny, and four for drunkenness. Of the females, one was under sentence for larceny, and two had been committed as disorderly characters.

"It was a matter for gratification to find that action had at last been taken with a view to effecting the much needed sanitary improvement of this gaol, and I am inclined to think that it is chiefly due to the energy and perseverance of the Gaol Surgeon. A complete change from the old cesspool system to that of dry earth closets had just been made, and, so far as I could see, the plans were well devised, and the work properly executed.

"One other improvement I strongly recommend to the county authorities, is the substitution of iron bedsteads for the wretched benches with boards upon them, which are now made to do duty. It is simply impossible to keep the gaol free from vermin with such structures as these in the cells, and no gaoler can fairly be held responsible for want of cleanliness in this respect under such circumstances."

BRAMPTON GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	137	109	151
Greatest number confined at any one time.	13	25	19
Number of re-committals	66	52	59
Total cost of maintaining gaol	$1,452.31	$1,463 02	$2,027 09

This gaol was visited twice during the year by Dr. O'Reilly, who made the following reports to the Government upon it:—

"The first inspection of the Brampton gaol was made on the 31st May. There were two male prisoners in custody on that day; no females. One of these prisoners was an idiot, and the other a vagrant. The gaol was in excellent condition throughout."

"My second inspection of this gaol took place on the 3rd September. There were then four male prisoners in custody. Two of them were charged with burglary, and, as regards the others, one was an idiot and the other a vagrant. Both of them were in gaol at the time of my previous visit.

"Everything about the building was found in good condition."

BROCKVILLE GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	188	215	245
Greatest number confined at any one time.	30	34	30
Number of re-committals	82	81	119
Total cost of maintaining gaol	$2,539.27	$2,503.87	$2,663.51

An inspection of the Brockville gaol was made by me on 23rd April. There were twenty prisoners in custody, fifteen males, and five females. Two of the males were committed charged with larceny, two as lunatics, one as an idiot, and one as a vagrant. One was under sentence for larceny, and the others for drunkness, vagrancy and minor offences.

The females were under sentence for vagrancy, drunkenness, etc.

The lad committed as an idiot is also reported to be epileptic to such an extent as to render him helpless, and unable to care for himself in any way whatever.

Since the date of my last inspection, nothing worthy of special note has transpired.

I found the gaol and gaol premises in their usual excellent condition. The books likewise were properly kept.

A second inspection of this gaol was made on the 26th September, and I then found that there were twenty prisoners in custody, seventeen males and three females. Four of the males had been committed as lunatics, one in default of sureties to keep the peace, and the others for vagrancy and minor offences. The three females had been committed as vagrants.

One of the male prisoners had been committed on the 23rd February as a lunatic, and, as the examining authorities had disagreed as to his mental condition, he had been retained in gaol for further observation by them. The Sheriff was therefore requested to obtain and forward to me a report from the Gaol Surgeon on the mental state of the prisoner.

The gaol and premises were in good order, and the books carefully and properly kept.

CAYUGA GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	50	42	68
Greatest number confined at any one time	14	9	13
Number of re-committals	7	10	27
Total cost of maintaining gaol	$1,643.84	$1,662.32	$1,912.65

Dr. O'Reilly's reports to the Government upon this Gaol were as follows:—

"My first inspection of the Cayuga gaol for the current year was made on the 14th May.

"There was only one prisoner in custody. He is an old man, a vagrant, who spends the greater part of his time in this gaol. He is not now under sentence and has not been for some months. He is given shelter here by the sheriff with the knowledge and consent of the county authorities, in this way converting the gaol into a county poorhouse.

"The ventilation and closet arrangements of this gaol are defective. Attention has been called to the matter before, and I can only do so again with the hope that the necessary improvements in regard thereto will not be much longer delayed."

"I again inspected the Cayuga gaol on the 26th September, finding two male and two female prisoners in custody. One of the former was undergoing his third sentence for larceny, and the other was the vagrant who has a perpetual residence in the gaol. One of the women was under sentence for a short period for assault, and the other for prostitution.

"The gaol was clean and well kept in all respects, and I was glad to learn that the council had commenced certain improvements in the water closets and ventilation, as recommended by me at the time of mylast visit. When the work is completed the condition of the gaol will be very much improved."

CORNWALL GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	50	53	68
Greatest number confined at any one time	7	5	9
Number of re-committals	7	21	14
Total cost of maintaining gaol	$1,572.94	$1,608.98	$1,800.05

An inspection of this gaol was made by me on the 23rd April. Two male and two female prisoners were in custody. Two of the male prisoners were under sentence for minor offences, two had been committed for larceny, and one as an idiot. The females had both been committed as insane. One of them was formerly an inmate of an asylum, and in the gaol was quieter than at home, where she was said to be violent.

The premises were well kept and in good order, except the closets in the yards, which, owing to the high water in the river, and severe frost of the past winter were choked and required attention. In view of the liability of these drains to stoppage at any time, and of the insufficiency of the water supply to keep them clean, it would be better to adopt the ordinary earth closets, which can be kept in good condition without trouble.

On this occasion I met a committee of the County Council in regard to the proposed new county buildings, and their relation to the gaol. The question was

fully discussed, and after examining various sites, a suggestion was made by which an extension of the building could be carried out without materially interfering with the gaol premises.

I made a second inspection of the Cornwall gaol on the 26th September, and found six males and one female in custody. One of the males had been committed as insane, three were charged with murder, and two with aggravated assaults. The woman was waiting removal to the Kingston asylum, to which place she was to be transferred as soon as a vacancy occurred.

The prisoners charged with murder were received into custody on the 24th September, and every precaution appeared to be taken to ensure their safe keeping.

The Gaol Surgeon has called special attention to the fact that no means of ventilating the cells is provided, and that consequently they are quite damp at times, and unsuited for the confinement of aged and infirm persons. This defect might be remedied, I think, by having an aperture made in the rear wall of each cell and gratings inserted therein. The sheriff was therefore requested to confer with the county architect and gaol committee, as to the practicability of carrying out my suggestion.

The gaol in all departments was in excellent condition, and the books were properly kept.

Cobourg Gaol.

	1882.	1883.	1884.
Prisoners committed during the year	100	121	127
Greatest number confined at any one time	22	24	24
Number of re-committals	31	32	30
Total cost of maintaining gaol	$2,587.63	$3,074.75	$2,721.82

An inspection of the Cobourg gaol was made by me on the 24th April.

There were four male prisoners in custody, one of whom was committed for larceny, and the other three for drunkenness and disorderly conduct.

This number of prisoners is much below the average, and is accounted for by the fact that eight male and two female prisoners had just been removed to the Central Prison and Asylum respectively.

The entire premises I found in excellent order, bearing evidence of the strictest care and attention on the part of the gaoler and his turnkey in the performance of their duties. The books were also well kept.

I understand that the Council of the municipality have under consideration the heating of the gaol and premises with coal instead of wood, and in that event the erection of a coal-shed will be necessary in the yard at present used for the storage of wood. If this means of heating should be adopted, and the erection of a shed be determined upon, less space would be occupied for the storage of coal than for wood, and no exception would be taken to the shed being placed on the west side of the yard referred to, as the safe keeping of the prisoners would be equally provided for with the wall properly constructed, as proposed in the new erection.

A second inspection was made on the 23rd September. Sixteen male prisoners were in custody, of whom one was under sentence for arson, five for larceny, and seven for drunkenness. The other three were waiting trial for various offences.

The gaol premises were scrupulously clean and in excellent order. The coal-shed referred to in the previous report has been built, and the work done in a most satisfactory manner, both as regards position and the character of the structural arrangement.

CHATHAM GAOL.

	1882.	1883.	1884.
Prisoners committed during the year.....	148	117	153
Greatest number confined at any one time	16	13	16
Number of re-committals.....	34	5	9
Total cost of maintaining gaol.....	$2,001.61	$2,132.31	$2,032.21

A copy of Dr. O'Reilly's report to the Government is annexed:—

"I inspected the Chatham gaol on the 29th April, and found it in its usual excellent condition of cleanliness and order.

"There were only five prisoners in custody, four males and one female, all of whom were under sentence for minor offences, except one who was on remand charged with felony, and one held for want of sureties to keep the peace.

"I was pleased to find that the construction of a new residence for the gaoler had been commenced, and it is to be hoped it will be completed in a short time, and the gaoler enabled to remove his family from their present very unhealthy quarters. When that is done, certain changes will be possible which will greatly increase the sanitary condition of the premises.

"On inspecting the yards I found in the wood-yard some timber, for the removal of which I gave instructions."

The following is a copy of another report made by Dr. O'Reilly upon this gaol to the Government:—

"On the 18th September the second inspection of the Chatham gaol during the official year was made. I found nine prisoners in custody, seven males and two females. One of the male prisoners was waiting trial for perjury, one was undergoing a sentence of two months for selling liquor to Indians, and three others were sentenced for embezzlement, larceny and assault respectively. One of the females was under sentence for prostitution, and the other for drunkenness.

"The gaol was thoroughly clean and neat. I noticed that some of the locks were out of order and unsafe, also that the plaster in one of the wards needed repair. The Sheriff was requested to have these matters attended to.

"The new residence for the gaoler, which is situated a few yards from the prison, is about completed, and doubtless that officer will soon be afforded an opportunity of getting his family out of the wretchedly unhealthy place in which they have been obliged to live so long. Near the new house is an old water-closet, and which, unless removed, will be a positive nuisance to the gaoler and his family. It is to be hoped that it will at once be taken away."

GODERICH GAOL.

	1882.	1883.	1884.
Prisoners committed during the year ..	87	58	90
Greatest number confined at any one time.	18	15	18
Number of re-committals.....	27	22	34
Total cost of maintaining gaol.....	$2,034.81	$2,012.07	$2,610.22

The report made to the Government by Dr. O'Reilly is subjoined:—

"The Goderich gaol was inspected by me, at 10 o'clock at night, on the 5th May.

"There were eight male prisoners in custody; no females. Three of the prisoners were on remand charged with rape with violence. One was waiting trial for felony; one was detained as a witness; two were vagrants, and one was an idiot, the latter having been an inmate of the gaol for a year or more.

"The general condition of the gaol was, as usual, good; everything was clean and orderly, so far as it is possible for it to be, with the defective drainage and bad ventilation which at present exist. These latter should receive the attention of the county authorities, and the Sheriff was requested to call special notice to it without unnecessary delay.

"The dampness of the Gaoler's dwelling, which arises from defective drainage, and also from the fact that the plastering is done directly upon the bricks, has been before referred to, and steps should be taken to remedy it.

"A supply of galvanized buckets for use in the cells in the day time is much needed, inasmuch as there are no inside closets to the gaol, and it is not always possible to allow prisoners to go into the others. The Sheriff will be good enough to attend to this matter.

"I called attention again to the necessity for replacing the wooden substitutes for bedsteads in this gaol, with proper iron bedsteads. These latter are now to be had at such low prices, that there is no reasonable excuse for postponing the change on the ground of cost.

"The only stairway in this building is in the centre, the wards, and all the other rooms, radiating from the well in which the staircase is placed.

"The floors of this central corridor, and the stairway and well, are all made of wood. This stairway affords the only means of escape from any part of the building in case of fire, and consequently such an occurrence in this central corridor would be certain to be attended with great loss of life. Paved floors and an iron stairway should be provided, and I commend this to the consideration of the gaol authorities.

"All the books were examined and found to be correctly kept. No punishments had been recorded in the punishment book since the date of the last inspection."

Another report made to the Government is also given:—

"The second inspection of the Goderich gaol was made by me on the 22nd September. Eleven prisoners were then in custody, five males and six females. Two of the male prisoners were waiting trial for rape and manslaughter, respectively; another was under sentence for larceny, and the remaining two for vagrancy. Of the females, three were insane or idiotic; one was waiting trial for child desertion, and the other two were vagrants. The case of one of these latter was a pitiful one, her husband having been sentenced to the penitentiary about a month before. The poor woman had two children in the gaol with her, one of whom was born there after her husband's removal to the penitentiary. It is a shameful state of things that no other accommodation can be found for this unfortunate women and her children but that afforded by the common gaol of the county. I instructed the gaoler to place the two children on the dietary list as one adult, during their stay in the gaol.

"I was glad to find that iron bedsteads had at last been furnished. This much needed improvement will be found conducive to cleanliness hereafter. Everything was in a satisfactory condition about the gaol."

GUELPH GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	192	187	147
Greatest number confined at any one time.	20	28	18
Number of re-committals	12	34	23
Total cost of maintaining gaol.....	$2,974.09	$2,592.27	$2,677.03

Dr. O'Reilly made the following report to the Government:—

"The Guelph Gaol was inspected on the 1st May, when eight prisoners were in custody, namely, seven males and one female.

"All were under sentence for minor offences, except one prisoner, who had been committed as a lunatic and was waiting examination.

"The gaol was in a good condition of cleanliness, and well kept in all respects.

"The heating arrangements of this gaol are very defective; they are neither efficient, economical, nor safe. I call the special attention of the county authorities to this feature, with a view to improvement in the near future.

"A copy of another report made to the Government by Dr. O'Reilly upon this gaol is appended:—

"The Guelph gaol was inspected by me again on the 23rd September, when there were six males and two females in custody. One of the former was waiting removal to the Central Prison, to which place he had been sentenced for one year for conspiracy; another was about to be removed to the Penitentiary to serve a term of seven years for cattle stealing; and a third was sentenced to six months in the Common Gaol for a like offence. The latter two were father and son.

"Of the females, one was waiting transfer to the Reformatory for Females; the other was an old *habitué* of the gaol, and was again undergoing sentence for vagrancy.

"The gaol was in fairly good order throughout, except that the straw in the beds had been used so long without renewal, that it had become unfit for further use. The gaoler stated that he could only get straw at certain seasons of the year, and having no place to keep a supply on hand he is unable to change the straw in the beds from time to time as required. I pointed out to him that the shed, known as the cow house, could easily be converted into a place for the keeping of straw, and I recommended to the County Council the adoption of the suggestion.

"No change had been made in the heating arrangements, and I regret to say that another winter will probably be allowed to pass without the heating of the female side of the gaol having been improved. To allow it to remain in the condition in which it was last winter, can only be characterized as cruelty, and I trust that an effort will be made to remedy this before the severe weather of the coming winter sets in."

HAMILTON GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	958	898	954
Greatest number confined at any one time.	61	62	62
Number of re-committals	544	507	524
Total cost of maintaining gaol	$5,600,00	$4,433.00	$5,170.00

Dr. O'Reilly made the following report upon this gaol:—

"My first statutory inspection of the Hamilton gaol for the current year took place on the 5th June.

"On that date there were thirty-nine prisoners in custody, namely, twenty-seven males and twelve females. Two of the male prisoners were awaiting trial, charged with murder; one with assault and robbery; one with attempted suicide, and one with wilful damage to property. One was on remand charged with assault; one is an idiot boy awaiting removal to an asylum. All the other male prisoners were under short sentences—three for larceny, one for trespass, one for assault, one for wilful damage to property, and one for wounding, the remainder being of the drunken, disorderly and vagrant class.

"Of the twelve female prisoners one is an insane woman awaiting removal to an asylum, all the others were drunks and vagrants.

"I examined the gaol very thoroughly and found it to be in excellent order throughout. The new matron appointed in April last has effected some considerable improvements in the cleanliness and order of her department. The yards were all cleanly and well kept.

"On this occasion I took into consideration an irregularity which has been of long standing in this gaol, namely, that by the construction of the yards it is necessary for male prisoners in going from the gaol to the stone yard to pass through the laundry and through the female airing yard. As this is of course always done under the supervision of a turnkey, no great harm can come of it. But the difficulty is that this state of things renders it necessary for each male officer to have a key which will admit him into the female side of the gaol at all times. I was not aware that this state of things existed and did not suppose, until I found that a turnkey was able to and did, as a matter of fact, admit me into the female corridors, that such a thing was possible. Instructions were at once given to the gaoler to have the lock on the laundry door changed so that it could only be opened by a special key, which was to be given to the matron, and that no male prisoners were to be allowed to pass through the laundry except when the door was opened by the matron herself, and that this route to the yard was only to be used pending the construction of a new gateway through the wall of the west wood yard, which, when done, will afford access to the stone yard without the necessity of going through any part of the female side of the gaol.

"The Sheriff was desired to point out to the Chairman of the Gaol Committee the immediate necessity which exists for the construction of a gateway at the place indicated."

A copy of Dr. O'Reilly's second report to the Government respecting this gaol is annexed.—

"The second statutory inspection of the Hamilton gaol during the year took place on the 28th August. There were then in custody thirty-four males and eleven females. The important prisoners were—one waiting trial for rape, one for bestiality, one for robbery, and one for receiving stolen goods. The others were of the usual class committed for vagrancy, drunkenness, petty larceny, etc.

"The gaol was found to be in its usual condition of cleanliness and good order.

"A short time previous to my visit, a boy had escaped from the gaol by creeping through the bars of a basement widow. Upon enquiry I found that this was the second escape which had been made through these windows. On examination I found that for some unexplained reason, the bars of the basement tier of windows had been placed wider apart than those above, and the spaces were so wide as to render them quite unsuitable for the safe keeping of boys and girls. The Sheriff was requested to at once call the attention of the county authorities to this defect, with a view of having it remedied."

KINGSTON GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	125	153	178
Greatest number confined at any one time.	21	23	28
Number of re-committals	18	19	28
Total cost of maintaining gaol	$3,796.88	$3,683.89	$5,134.33

I inspected this gaol on the 17th January, and found therein nine male and ten female prisoners. Three of the men were under sentence for larceny, one for

assault, four for drunkenness and vagrancy, and the other had been committed as an idiot. Of the females, one was a lunatic and the rest were under sentence for vagrancy and drunkenness. Two of the vagrants were under sentence for five years each in the Industrial Refuge for Girls, and two were under sentence to the Reformatory for Females, and were waiting removal.

The gaol premises were found to be scrupulously clean and in good order throughout.

The books were fully written up and well kept. The statements of accounts and vouchers examined, also shewed evidence of care and system in these matters to a creditable degree.

I again inspected this gaol on the 25th September. I found that since the time of my previous visit substantial improvements had been made in the internal arrangements of the gaol by fitting the closets in the wards with the latest appliances, and at the same time thoroughly ventilating each closet and ward in the building. The satisfactory manner in which the work has been done reflects credit on those having charge of it. The gaoler is also entitled to commendation for the excellent condition in which I found these improvements to be kept, as well as for the state of order and cleanliness prevailing in the gaol. The reconstruction of the sheds in the yard, as formerly recommended, has been done, and that yard is now in a better state.

Sixteen prisoners were in custody, seven males and nine females. Of the men, one had been committed as an idiot, one as a lunatic, and one had been sentenced by the military authorities for a period of six months. The rest were under sentence for larceny and kindred offences. All the females, except one committed for lunacy, were charged with drunkenness, vagrancy, etc.

London Gaol.

	1882.	1883.	1884.
Prisoners committed during the year	775	806	1,004
Greatest number confined at any one time.	53	61	77
Number of re-committals	278	277	382
Total cost of maintaining gaol	$6,059.76	$7,284.75	$7,517.35

Dr. O'Reilly's report to the Government upon this gaol is given hereunder:—

"The London gaol was visited by me on the 16th January. There were in custody forty-three male and nine female prisoners; of the former, three were waiting trial for murder and one for forgery. Four were on remand, three being charged with larceny, and one with indecent assault. All the others were undergoing short sentences for petty larceny, drunkenness, assault, vagrancy, etc. There were no lunatics in gaol on this occasion; one of the female prisoners was an idiot, but simple and quite harmless.

"The gaol in all departments was in excellent order. The heating arrangements seemed fairly good, the temperature being even and sufficiently high for the comfort of all. In one respect the arrangement of this gaol is not satisfactory. The kitchen opens by an ordinary door upon a yard which is not enclosed by a wall, and it is also open to the front gateway. It may therefore be said not to be in the gaol proper at all, and it is impossible for the gaoler to take any prisoners into the kitchen to work, who would be likely to escape. I would recommend, therefore, that this defect in the construction of the gaol be remedied by placing such wickets as may be necessary to make the kitchen perfectly secure for prisoners to work in."

Dr. O'Reilly visited the gaol again during the year, and reported to the Government upon it as follows:—

"The London gaol was inspected by me on the 29th July. There were then twenty-three male and six female prisoners in custody.

"The gaol was carefully examined and found to be in the usual state of good order. The books of record were also well kept. I was pleased to find that the improvements suggested by me at the time of my previous visit had been carried out, thereby adding greatly to the security of the gaol, as well as to the comfort of the officers in its management.

"The present gaoler has had long experience in his work, and since his accession to his present position there has been no trouble whatever with this gaol. Everything has gone on as smoothly as could be desired, and I found no complaints amongst the prisoners as to the treatment they received."

Lindsay Gaol.

	1882.	1883.	1884.
Prisoners committed during the year	47	39	75
Greatest number confined at any one time.	7	9	17
Number of re-committals	15	2	6
Total cost of maintaining gaol	$1,466.55	$1,595.58	$1,718.54

I made an inspection of the Lindsay gaol on the 11th June, and on that day there were four prisoners in custody, three males and one female. Of the former, two were committed, charged with rape, and the other was under remand, charged with violent assault. The female prisoner was under sentence to the Reformatory for Females for sixteen months for larceny, but since sentence was passed upon her she had been seriously unwell, and was then too ill for removal. The Sheriff was therefore requested to forward notice so soon as the surgeon reported her condition of health such as to warrant her being transferred to the Reformatory.

The gaol and premises were found in good order, and clean.

Another inspection of the gaol was made by me on the 3rd October, when it contained seven prisoners, six males and one female. One of the male prisoners was a lunatic, two were waiting trial for rape, and the others were vagrants. The woman was under sentence for larceny.

No change worthy of record had taken place in the condition of the gaol, either structurally or otherwise, since the date of my previous visit. The books were neatly and properly kept, and the premises were in good order.

L'Orignal Gaol.

	1882.	1883.	1884.
Prisoners committed during the year	16	23	23
Greatest number confined at any one time.	5	7	7
Number of re-committals	3	1	4
Total cost of maintaining gaol	$1,014.38	$1,423.81	$1,063.62

I made a statutory inspection of this gaol on the 29th September, finding only one prisoner in custody. The charge on which he stood committed was attempted fraud.

The premises were in excellent order, and cleanly throughout. An examination of the books showed them to be neatly and properly kept, and everything connected with the gaol indicated a due regard on the part of the gaoler for the duties of his position.

MILTON GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	147	97	140
Greatest number confined at any one time...	19	16	21
Number of re-committals	26	22	17
Total cost of maintaining gaol	$1,183.92	$1,234.15	$1,287.00

The following report was made to the Government by Dr. O'Reilly upon this gaol:—

"The Milton gaol was inspected by me on the 2nd June, when there were in custody five males and one female. Three of the men were under sentence for minor offences, one was held for want of sureties, and one was a lunatic waiting removal to an asylum. The one female prisoner had been committed as a vagrant.

"The gaol was found to be, as it always is, scrupulously clean from top to bottom, and the books were thoroughly well kept."

Another visit was made by Dr. O'Reilly and reported upon as under:—

"I made a second inspection of the Milton gaol on the 30th September. I am glad to be able to report that there were no prisoners in custody on that day, nor had there been for several weeks previous. The gaol was in excellent order throughout."

NAPANEE GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	68	64	72
Greatest number confined at any one time..	12	13	9
Number of re-committals	22	28	26
Total cost of maintaining gaol.....	$1,320.07	$1,218.11	$1485.56

My first inspection of the Napanee gaol was made on the 24th April. Seven prisoners were in custody—six males and one female. Of the former, two had been committed for railway trespass, one as insane (name unknown), one for larceny, and one, an imbecile pauper, for an indefinite period; the others for minor offences. The female had been committed as an inmate of a house of ill-fame.

The gaol and premises were clean and tidy, bearing evidence of constant care on the part of the gaoler in his management. The books were also found to be well kept.

I inspected this gaol again on the 24th September, when two male and two female prisoners were in custody. One of the males was under sentence to the Central Prison and was waiting removal thereto, the other had been committed on a charge of rape. One of the females was under sentence for assault, and the other had been committed for prostitution.

The premises were scrupulously clean, and the books were also in good order.

OTTAWA GAOL.

	1882.	1883.	1884.
Prisoners committed during the year.....	669	710	713
Greatest number confined at any one time..	59	58	47
Number of re-committals.....	102	107	97
Total cost of maintaining gaol	$5,587.18	$6.564.30	$6,351.10

I inspected this gaol on the 6th May, and found twelve male and six female prisoners in custody. Of the former, three had been sentenced for larceny, and one was awaiting trial for that offence. Three males and one female had been committed as insane, and the others for minor offences.

The books were in fair order, and the premises also, except that they were to a certain extent untidy, on account of the usual spring cleaning and whitewashing which was in progress at the time of my visit.

On the 30th September I made my second official inspection of the gaol for the year. There were in custody on that date twenty males and fifteen females. Of the males, two had been committed as insane, four were under sentence for larceny, two were awaiting trial for horse stealing, and one for larceny. The others had been committed for drunkenness, etc.

Of the females there were three under sentence for keeping houses of ill-fame, and four for being inmates of same; one was under sentence for larceny, and the others were committed charged with minor offences.

A substantial improvement has been made on the premises during the past season by the erection of a new coal shed. It is built of stone, and occupies a position in the yard formerly used for storing the Court House supply of wood. The coal for the gaol had hitherto been kept in an outer yard, from whence it had to be carried from time to time as required, thus exposing prisoners to the temptation to regain their liberty, which will now be obviated.

Attention has been called in previous reports to the defective and inconvenient entrance to the gaol, but no action has been taken by the County Council in regard thereto. The necessity for making the alterations, as recommended, is too apparent to require being further emphasized. I trust, therefore, that the sheriff will so represent the matter to the committee of Council that they will deal with it without further delay, and have a safe and convenient entrance provided.

The wooden benches which were formerly used for bedsteads were removed in 1881, and have not been replaced; consequently the prisoners beds are made on the cell floors. This is very objectionable, on the grounds of health alone, as the floors retain at all times more or less of the dampness occasioned by scrubbing them. The sheriff will therefore bring this matter also to the notice of the Council with a view to having ordinary iron bedsteads placed in the cells.

The premises were clean throughout. The work yard is much improved, having been levelled and properly sodded by the prisoners, giving it an appearance of neatness and order. The books of record were well kept.

I may add that in view of the satisfactory condition in which I found the premises of the gaol, as the result of strict attention to duty on the part of the gaoler and the turnkeys, I am of opinion that the salary paid to the responsible officer should be equal to the average amount paid to gaolers in the cities of the Province, and trust that the Council may see their way to grant this advance.

Owen Sound Gaol.

	1882.	1883.	1884.
Prisoners committed during the year....	168	130	200
Greatest number confined at any one time	31	20	27
Number of re-committals.....	64	45	72
Total cost of maintaining gaol.....	$3,663.00	$3,439.92	$3,467.54

Copies of the two reports made by Dr. O'Reilly on this gaol are appended:

"The first inspection of the Owen Sound gaol for the year was made by me on the 29th May. Sixteen prisoners were in custody on that day, fourteen males and two females. Both of the latter were under sentence for vagrancy. Of the former one was waiting trial for murder, four had been committed as insane and were waiting examination, one was under sentence for larceny, and the remainder were disorderly characters and vagrants.

"Everything in and about the gaol was found in good order, except that in the yards the grass needed cutting very much. This should not have been the case considering the number of prisoners in the gaol capable of doing the work."

"The Owen Sound gaol was again inspected by me on the 29th June, when nine men and one woman were found in it. One of the male prisoners was waiting trial on a charge of murder, one was under sentence to the Central Prison and one to the gaol for a like offence. One prisoner was insane, one was an idiot, and two were vagrants, one having been committed twenty-one times. The one female prisoner was undergoing her fifth sentence for the offence of vagrancy.

"The gaol in all its departments was found to be in good order."

ORANGEVILLE GAOL.

	1882.	1883.	1884.
Prisoners committed during the year.....	35	43	56
Greatest number confined at any one time	10	14	16
Number of re-committals.....	4	6	16
Total cost of maintaining gaol.....	$1,572.00	$1,913.00	$1.972.89

Dr. O'Reilly's reports to the Government upon this gaol are given below:—

"The first statutory inspection of this gaol during the year took place on the 30th May.

"There were thirteen prisoners (nine males and four females) in custody. Of the former, one was waiting trial for larceny. one was an idiot, and the remaining seven were vagrants. Of the females, three were vagrants and one was an idiot.

"The general condition of the gaol was excellent. In the work-yard I found that wood had been piled too near the fence for the security of the prisoners. I called attention to this with a view to its removal.

"Such of the prisoners as were able to work were employed on the day I was there in whitewashing and scrubbing. Amongst the females confined on charges of vagrancy was one said to be 106 years old. No comment is necessary on the inhumanity that will commit such a person, for no crime but her poverty, to spend her few remaining days in a prison.

"On this occasion it became my duty to enquire into the circumstances connected with the escape of a prisoner on the 12th May. It appeared that the gaoler was taking three prisoners out of the yard to do some work in the street outside of the fence. While on their way to the place where the work was to be done, the gaoler had occasion to return to his office for a moment. He told the prisoners to go on to their work and he would follow. One of them, of course, took advantage of this circumstance, and made his escape by running across the fields. He was pursued, but was not recaptured."

"I made another inspection of the Orangeville gaol on the 3rd September, finding nine male and four female prisoners in custody. Two of the male prisoners were under sentence for short periods for larceny, one was an idiot, and all the others, both male and female, were vagrants. The old woman referred to in my last report as being 106 years old was still in the gaol.

"On inspecting the books, I found that they were not in an entirely satisfactory condition. I called the gaoler's attention to the fact, and I hope to find an improvement on my next visit.

"Again I had to make enquiry respecting an escape from the gaol. The prisoner who escaped was under sentence to the Central Prison, and when notice was received that the bailiff was to call for him, the prisoner was told, as is

always done, to exchange the gaol clothing for his own. When he had done this he was left in the corridor by himself, waiting for the bailiff to arrive. The door leading into the yard had been left open, and the prisoner went into it and scaled the wall, and thus made his escape. The prisoner got clear of the gaol and concealed himself in a wheat field, where he was finally discovered and recaptured the same evening."

PERTH GAOL.

	1882.	1883.	1884.
Prisoners committed during the year.....	55	68	70
Greatest number confined at any one time	16	20	20
Number of re-committals.....	21	22	24
Total cost of maintaining gaol.....	$2,461.22	$2,270.03	$2,617.07

An inspection of this gaol was made by me on the 8th May, when I found five male and five female prisoners in custody. Two of the former were under sentence for short periods for larceny, the other three for minor offences. The females were all under sentence for short periods for vagrancy. The books were in excellent order. Everything appertaining to gaol and premises indicated scrupulous regard to duty on the part of the gaoler and turnkey.

I made another inspection of the Perth gaol on the 2nd October. On that day there were nine prisoners in custody, six males and three females. Except one man under sentence, all these prisoners were committed for vagrancy and minor offences.

The gaol was in good order, having been materially improved since the time of my previous visit by new water-troughs and down-pipes being placed where necessary throughout the building and by repainting the wood work, thus giving the exterior a neat and finished appearance. Both in front and rear of the county property, a substantial stone wall is being erected, which, when completed, will put the whole place in a most creditable condition.

PICTON GAOL.

	1882.	1883.	1884.
Prisoners committed during the year....	96	89	65
Greatest number confined at any one time	9	8	6
Number of re-committals.....	44	44	28
Total cost of maintaining gaol.....	$1,134.24	$1,064.63	$1,079.97

There were no prisoners in this gaol on the day of my visit, 24th September. Two prisoners had been discharged the previous morning, and another, a lunatic, had been removed to the asylum on the morning of the day that I inspected the gaol.

The gaol premises throughout were in very good order, indicating careful attention by the gaoler and his turnkey to the duties of their positions.

PEMBROKE GAOL.

	1882.	1883.	1884.
Prisoners committed during the year.....	74	78	113
Greatest number confined at any one time	17	16	20
Number of re-committals.....	31	26	43
Total cost of maintaining gaol.....	$1,512.11	$1,530.14	$1,732.07

I made an examination of this gaol on the 7th May, when I found seventeen persons in custody, namely eight adult males, three adult females, and six children,

who composed the families of two of the female prisoners, both of whom were committed as imbecile vagrants. The other female was under sentence for larceny. Of the male prisoners one was under sentence to the Central Prison for twelve months, one for larceny for a short period, two were committed as vagrants, and one was committed as a lunatic, and two were waiting trial for forgery and one for larceny.

The premises and books were in first-class order, and all matters pertaining to the discharge of official duty indicated proper care and consideration on the part of the gaol officials.

My second official visit for the current year was made to this gaol on the 1st October. I found the premises in an excellent state of cleanliness and good order. The records also were neatly and properly kept, and there was evidence that the strictest attention is given to the rules and regulations by the gaoler.

On the day of my visit there were eleven males and one female in custody. Eight of the males were under sentence for drunkenness and vagrancy, and the other three were waiting trial, two for manslaughter and one for larceny.

An examination of the supply of uniform clothing shewed that it was much worn and insufficient for the average number of prisoners confined. The Sheriff was requested to order from the Central Prison six pairs of trousers of the regulation pattern to meet the requirements in this respect.

Peterborough Gaol.

	1882.	1883.	1884.
Prisoners committed during the year.....	121	181	148
Greatest number confined at any one time.	11	23	25
Number of re-committals	60	35	48
Total cost of maintaining gaol	$1,679.69	$2,708 81	$2,580.98

The first inspection of the Peterborough gaol was made by me on the 11th June. Eleven males and one female were in custody, all of whom I saw. Of the men, one had been committed for larceny, one for threatening, one for wilful damage to property, and the rest for vagrancy. Three of the latter appear to have been committed solely on account of injuries they had sustained, and of inability to provide for their care and treatment elsewhere. The woman had also been committed as a vagrant.

It was reported to me that the County Council was considering the advisability of heating the court house and gaol by steam or hot water. I pointed out that if the change were made an improvement could be effected by removing the bath-tub from the gaol kitchen to the hall in the rear of the wards.

The Peterborough gaol was visited by me for the second time during the official year on the 3rd October. There were nine males and three females in custody. Three of the males had been committed as lunatics, four were under sentence for minor offences, and one was detained for want of sureties to keep the peace, and one was waiting trial for rape. One of the female prisoners was under sentence for two years in the Reformatory for Females, and the other two had been committed as vagrants.

The gaol premises were in good order.

PORT ARTHUR GAOL.

	1882.	1883.	1884.
Prisoners committed during the year....	131	412	834
Greatest number confined at any one time	12	20	37
Number of re-committals.....	5	24	33
Total cost of maintaining gaol	$1,836.72	$2,179.33	$3,143.22

A copy of Dr. O'Reilly's report to the Government is annexed:—

"I made visits to this gaol on the 26th, 27th and 28th June. The gaol has ten cells on the male side and five on the female side, and yet on the occasion of these visits there were no less than twenty-nine male prisoners in custody, some of them being the worst of their kind. One was charged with murder, two with stabbing with intent, two with robbery, fifteen with larceny, two with assault, and one with vagrancy. All the others were under short sentences for drunkenness.

"The gaol was found to be exceedingly well kept, considering the immense difficulties the gaoler has to contend with in keeping so many prisoners in so small a gaol.

"The chief object of my visit was to devise plans for the enlargement of the gaol and court house, so as to meet present requirements. I recommended a plan to the Public Works Department, which was since adopted. When it is carried out the gaol capacity will be increased to thirty cells, and much superior accommodation found for the gaoler and other officers of the goal."

SIMCOE GOAL.

	1882.	1883.	1884.
Prisoners committed during the year....	96	108	81
Greatest number confined at any one time	11	10	11
Number of re-committals	41	44	29
Total cost of maintaining gaol	$1,537.03	$1,623.48	$1,795.03

The following report was made by Dr. O'Reilly to the Provincial Secretary:—

"The first statutory inspection during the year of the Simcoe gaol took place on the 14th May.

"There were only three prisoners in custody, namely, one male and two females. The male prisoner and one of the female prisoners were under sentence. The other is an idiot woman who is kept here for want of other accommodation for her. She is unsafe to be at large, and there is no other means of disposing of her at present.

"Some new flooring is needed in parts of the wards and corridors. There is very great trouble in keeping it in good order in its present condition. Wire screens are also required on the cell and corridor windows which overlook the Court House yard on the south side of the gaol. It is possible here for persons outside to hold communication with the prisoners, and, if so disposed, to pass things to the latter through the bars.

"The sheriff has been instructed to provide good strong wire screens to cover these windows.

"The gaol in all other respects was well kept and clean."

Dr. O'Reilly again reported to the Government on this gaol as under:—

"On the occasion of my second inspection of the Simcoe gaol, which took place on the 26th September, there were only three prisoners in custody, namely,

one male, under sentence for three months, and two females, both idiots, waiting transfer to the Asylum for Idiots.

"The gaol was in its usual clean and tidy condition, and the books were found to be well kept.

"It was gratifying to find that my recommendation with reference to screens for certain of the windows overlooking the yard, had been carried out, adding greatly to the security of the gaol. The repair of the flooring in some parts of the gaol, which I had also recommended, had not been made. I found the flooring in several places to be so much worn as to be quite unsafe, and as it is absolutely necessary to the security of the prisoners that this flooring should be repaired, the sheriff was requested to have the work done at once.

"A much felt want in the County buildings here is that of proper drainage, there being no system of drainage in the town of Simcoe. So far as the gaol is concerned, much difficulty has been obviated by the use of dry earth closets, but that system, admirable as it is, cannot be regarded as a substitute for thorough drainage, where such is practicable. I was therefore glad to hear that a plan is proposed for draining the town, and that it is of such a nature as will enable the County authorities to drain their buildings at a moderate cost. It is earnestly to be hoped that no time will be lost by the County in co-operating with the town in such a way as to accomplish this purpose."

St. Catharines Gaol.

	1882.	1883.	1884.
Prisoners committed during the year	104	132	97
Greatest number confined at any one time.	12	14	15
Number of re-committals	11	16	7
Total cost of maintaining gaol.....	$2,297.93	$2,349.63	$2,666.70

Copies of Dr. O'Reilly's reports to the Government are appended:—

"The first inspection of the St. Catharines gaol during the official year was made on the 15th May. There were then five male and two female prisoners in custody. Four of the former and the two latter were under sentence for minor offences. The other prisoners were waiting trial.

"The general condition of the gaol, both externally and internally, was excellent, with the single exception of want of bath-rooms, and these, with the water-works of the city at hand, could be easily provided and made most efficient. It is to be hoped that the County Council will supply this want. If they do, the county will be able to boast of a gaol second to none in the Province in point of equipment."

"The second visit to the St. Catharines gaol was made on the 25th September. There were in custody on that day twelve males and one female. Three of the males had been sentenced to the Central Prison and were waiting transfer thereto, three had been committed as insane, and the remainder were petty offenders, such as drunkards, vagrants, etc. The one female prisoner was a lunatic waiting admission to an asylum.

"It appears to be the practice in this gaol for the gaoler and turnkeys to do the work connected with their departments, and to leave the prisoners in idleness. This is not as it should be. While there is work to do about the gaol, the prisoners should be made to do it. Several of the prisoners had been sentenced to hard labour, yet I found the turnkey doing work they could well have done instead of being locked up in their cells. I have no doubt but that the mention of this fact will be sufficient to correct this practice."

SARNIA GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	286	227	295
Greatest number confined at any one time.	22	20	22
Number of re-committals	22	8	21
Total cost of maintaining gaol.....	$3,744.00	$3,512.80	$3,334.75

The following report was made by Dr. O'Reilly to the Government:—

"I visited the Sarnia gaol on the 1st May, when I found nine prisoners in custody—seven males and two females. Five of the males were under sentence, one was on remand, and one was waiting trial. Of the females, one was sentenced as a vagrant, and the other was a lunatic waiting removal to an asylum.

"The interior of the gaol was in its usual perfect condition of cleanliness and order, the only drawback being that from the character of the bedsteads in use in the cells, it is impossible to keep that part of the gaol as it should be. In this respect the gaol will never be what it ought to be until iron bedsteads are provided, and it is to be hoped that this expenditure will not be much longer delayed.

"The attention of the Gaol Committee was again called to the necessity for a wood and work yard in connection with this gaol. This is a want which is very much felt, and it is important that it should be supplied without unnecessary delay."

Dr. O'Reilly again reported upon this gaol as under:—

"The second inspection of the Sarnia gaol was made on the 5th September. Nine male prisoners were then in custody. Three of them were charged with larceny, one with damage to property, one was insane, one was held for want of sureties to keep the peace, one was a vagrant, and two were drunkards.

"I have always found this gaol to be well kept in every respect, and its condition on this occasion made no exception to the rule."

STRATFORD GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	152	132	155
Greatest number confined at any one time.	23	13	16
Number of re-committals	36	27	54
Total cost of maintaining gaol	$2,328.77	$2,296.44	$2,225.21

Dr. O'Reilly reported as under upon this gaol:—

"The Stratford gaol was inspected by me on the 6th May.

"There were in custody nine prisoners, namely, eight males and one female. One male and one female were under sentence for minor offences, four males were on remand, one male was retained for want of sureties to keep the peace, and two males were lunatics.

"The gaol was found to be clean and in good order, so far as it is possible to keep it so. No effort appears to be wanting on the part of the gaoler in this direction, but the general condition of the gaol in almost all respects is hopelessly bad.

"I had an interview on this occasion with a committee appointed by the County Council to consider the condition of the gaol, and I have reason to hope that as a result of this meeting steps will be taken to effect an improvement."

Dr. O'Reilly's second report to the Government upon this gaol is annexed:—

"The Stratford gaol was again visited by me on the 22nd September. There were then in custody nine males and one female. Of the former, one was charged

with assault, one with false pretences, one with neglecting his family, one was said to be insane, one was an inbecile, and the rest were vagrants. The female prisoner was undergoing sentence for vagrancy.

"The gaol was in its usual orderly condition, and the books satisfactorily kept."

SANDWICH GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	270	262	258
Greatest number confined at any one time...	36	33	31
Number of re-committals	42	22	45
Total cost of maintaining gaol	$2,480.99	$2,708.14	$4,484.64

The following is a copy of Dr. O'Reilly's report to the Government upon this gaol:—

"On the 29th November, while at Sandwich holding an investigation into the escape of three prisoners from the gaol on the 22nd November, I made an inspection of the gaol.

There were in custody seventeen prisoners, of whom fifteen were males and two females. One of the former was under sentence of death for murder, two were under sentence for short periods for larceny, four for trespass, two were insane, and the others were vagrants and drunkards. The prisoner condemned to death, and four of the other sentenced prisoners, were not clothed in the gaol dress. Enquiry elicited the fact that the three prisoners who recently escaped were also not so clad. The reason given for this was that the stock of gaol clothing had run so low, that there was none which could be used for these prisoners. I verbally instructed the Sheriff to make an immediate requisition upon my office, for a full stock of uniform clothing.

"The gaol was in fairly good order throughout, as was also the one yard attached to it.

"During my investigation, I found there was a loop-hole in the wall of the kitchen which looked directly into corridor No. 2, and through which, when open, conversation could be carried on between prisoners in the kitchen and those in the corridor. As the loop-hole was of value as a means of observing what was going on in the corridor, it could not be permanently closed. Orders were therefore given to have it covered with a proper door, provided with lock and key, so that it could only be used by the gaoler or his assistants.

"One of the windows of the kitchen, looking into the yard, is so close to the windows of corridor No. 2 as to render conversation possible betwen prisoners in the kitchen and those in the corridor. Instructions were given to have the lower part of the kitchen window closed with boards.

"This gaol, standing as it does so near the American frontier, and opposite Detroit, from whence many important prisoners are drawn, is structurally quite inadequate to the demands made upon it. There are only four corridors, with eight cells in each, making a total accommodation for 32 prisoners. One of these corridors is used for female prisoners, thus reducing the number of cells for males to 24. That this accommodation does not admit of a proper classification of prisoners is quite evident from the facts recently elicited, as well as from the past history of the gaol, for the records shew that in

1878	there were	30	prisoners in gaol	at one time.
1879	"	22	"	"
1880	"	29	"	"
1881	"	25	"	"
1882	"	36	"	"
1883	"	33	"	"

"It is evident from these figures that with the gaol often more than full, such accommodation as is provided is not sufficient. The advisability, therefore, of taking early action towards increasing the capacity of the gaol is apparent. It is also to be observed that there is only one yard, and that by no means a large one, connected with the gaol. It has necessarily to be used as a wood-yard, as well as for working and airing purposes. Owing to its size, when the winter supply of fuel is laid in, there is very little room for anything else. Prisoners cannot, therefore, with safety be allowed in this yard, even in charge of a turnkey, for not even a large staff of turnkeys could properly watch any considerable number of prisoners while so many wood-piles and other things occupy space in this yard, more particularly as the walls also are so low that little difficulty would be experienced by an agile prisoner in scaling them. Another large yard should be enclosed to be used as a working yard, and the present enclosure could then be divided into two airing yards, one for each sex.

"During this inspection, I observed that proper use had not been made of the increased facilities which had been given by me for taking care of the prisoners, by authorizing the employment of an extra turnkey. It was my intention that one of the turnkeys should be constantly on guard within the gaol. I found that this had not been done, and to that fact is due the recent escape of the two murderers from the gaol. The Sheriff was instructed that while such important prisoners were in custody, a turnkey should be on guard within the gaol all the time, day and night."

A copy of the second report made by Dr. O'Reilly to the Government is annexed:—

"I made a special visit to the Sandwich Gaol on the 19th March to enquire into the circumstances attending the murder of the gaoler, the serious injury of one of the turnkeys, and the escape of two prisoners named O'Callagan and Kennedy, on the morning of Sunday, the 16th March, three days previous to my visit. On reaching the gaol, I was informed that the Coroner's enquiry had been recently closed, whereupon I procured a copy of the evidence from the County Attorney, and, upon seeing the list of witnesses who had been examined, and reading the testimony adduced, I found that for purposes of information a separate enquiry and examination of witnesses by me was unnecessary.

"I found the gaol in a very untidy condition, which was not inexcusable, however, owing to the recent unfortunate events, and to there being no gaoler, and only one turnkey on duty, who was at all acquainted with the ways of the the gaol. Much improvement cannot be expected in this respect until a gaoler and turnkeys are appointed, and the new staff gets into working order. There were seventeen prisoners in custody, including Kennedy, one of the men who had escaped, and who had been recaptured on the ferry boat a few hours afterwards.

"With the exception of this prisoner, who was waiting trial on a charge of burglary (to which is now added his complicity in the murder of the gaoler), and two others who are lunatics, all the prisoners were either under sentence or waiting trial for minor offences.

"This gaol consists of only four wards, one of which is used for females, thus reducing the accommodation for males to three wards of eight cells each, and all the cells are very small ones. There is not a cell in the gaol large enough to confine a prisoner permanently, as when he is in his cell he must perforce either sit or lie upon his bed. Two of the three wards are on the ground floor, and one above. Those on the ground floor are those which have to be used for all prisoners who are likely to attempt to escape, because the roof of the upper ward is so insecure as to render escapes through it quite feasible. In the lower wards the windows are only three or four feet from the ground, and the yard wall is only fourteen feet high, so

that, given the removal of a single bar from one of the windows, as in the Greenwood and Phipps' escape, all the rest is easily managed. The office of the gaoler is so situated as to be quite out of hearing of the gaol; and the kitchen on the other hand affords, from its situation, easy facilities for communication between the female prisoners working there and the male prisoners in one of the lower wards. So, that taking it all in all, a less secure gaol can scarcely be imagined. The necessary expenditure to make this gaol what it ought to be is withheld by the County Council because of the desire of some for a change in the county seat, which would remove the gaol from the immediate frontier of the county. This in itself is a desirable end to have in view, if its advantages are not more than counterbalanced by other considerations of greater importance. But as things stand at present, the condition of the gaol is most unsatisfactory and should either at once be improved or immediate steps be taken for the erection of a new one. I am inclined to believe that by the addition of another storey to the present gaol with cells and wards constructed according to modern ideas, ample security could be provided for the custody of the more dangerous class of prisoners, who, from its proximity to the United States, so often find their way there. This, with some minor structural improvements, such as raising the yard walls, providing more yard accommodation, and changing the position of the officers' quarters, so as to bring the occupants of them nearer the prisoners, would make the gaol sufficiently commodious and secure for all requirements. Before leaving, I gave the Sheriff instructions to have new and improved screens made for the windows of the gaol, which work was to be done without delay."

Dr. O'Reilly's third report upon this gaol was as under:—

"On the occasion of my third inspection of the Sandwich gaol on the 19th September, I found in custody seventeen prisoners, thirteen males, four females. It is very seldom that this gaol does not contain one or more prisoners of the worst type from the American side, but on this occasion there were none. All of the prisoners, with one exception, had been tried for minor offences and sentenced to short terms of imprisonment therefor. The one exception was a prisoner on remand, charged with arson. Of the female prisoners, one was insane, one was on remand charged with assault, and two were under sentence for drunkenness.

"The condition of the gaol on the male side, as regards cleanliness, was not very satisfactory. The gaoler is a new officer and perhaps not quite thoroughly up in his work as yet. I called his attention to this matter and no doubt there will now be an improvement in the condition of the gaol. There is also a new matron in charge of the female side. I found her department, both in the prison and in the kitchen, as clean and as orderly as could be desired. The books were all well kept."

ST. THOMAS GAOL.

	1882.	1883.	1884.
Prisoners committed during the year....	212	193	267
Greatest number confined at any one time	27	20	27
Number of re-committals.....	63	60	96
Total cost of maintaining gaol.....	$2,453.06	$2,509.28	$2,618.04

Annexed are copies of Dr. O'Reilly's reports to the Government upon this gaol:—

"An inspection of the St Thomas gaol was made by me on the 29th April. Twenty-four prisoners, twenty-three males, one female, were then confined therein. Nine of the male prisoners were under sentence for minor offences, one was on remand, eleven were waiting trial for felony, and two were held for want

of sureties to keep the peace. The one female prisoner was under sentence for drunkenness and vagrancy.

"There is no improvement whatever in the sanitary condition of this gaol, although a drain is now in progress, which will, it is hoped, effect a change. But the condition of the gaol at the time of my visit was an extremely critical one, there being only twelve small cells for the confinement of twenty-three male prisoners. The day previous to my visit there were twenty-four men, or two for each cell.

"So critical did I consider this state of things, that I telegraped immediately to the Attorney-General's Department at Toronto asking to have eleven of these prisoners removed at once to the Woodstock Gaol, where there was plenty of room.

"Of course, crowded as the gaol was, no attempt at classification of prisoners could be made, and the old and young, the hardened criminal and the more innocent offender must herd together until a better state of thing is brought about.

"Should an outbreak of fever take place in this gaol, which, in its present unhealthy and crowded condition, is possible at any moment, the results might be very serious.

"I again called attention to the absence of proper bedsteads, and to the filthy condition in which they must necessarily be until iron bedsteads are purchased.

"The books are well kept, and the discipline and management of the gaol is as good and efficient as can reasonably be expected under the unfavourable circumstances which exist."

"On making the second inspection of the St. Thomas gaol on the 22nd September, I found twelve males and five female prisoners in custody, only one of whom was charged with a serious offence. This prisoner was waiting trial for fraud. Two of the others, one male and one female, were insane and were waiting examination by the authorities.

"The gaol was found to be in a state of confusion, owing to the fact that the apparatus for heating the gaol by hot water was being put in. When this much needed improvement is completed, it promises to be a great acquisition, both as regards comfort and safety.

"The twelve male prisoners confined in the gaol exactly fill every cell and it is seldom that there are less than this number of prisoners. This, of course, does not admit of any classification of prisoners, and consequently young and old, the hardened criminal, and the comparatively innocent child have to be herded together. This was especially apparent on the female side of the gaol, where quite a young girl of respectable parentage, who was held on what was said to be a doubtful charge of petty larceny, was kept in the one available ward for women, with three harlots, one of them the keeper of a house of ill-fame, and one insane woman. A stronger plea than this for increased accommodation in the gaol it would be difficult to find.

"The drainage of the gaol has been completed and for the first time since my acquaintance with the gaol I found the basement free from water."

Sault Ste. Marie Gaol.

	1882.	1883.	1884.
Prisoners committed during the year	26	24	37
Greatest number confined at any one time	7	7	12
Number of re-committals	3	5	1
Total cost of maintaining gaol	$1,410.82	$1,481.73	$1,434.12

A copy of Dr. O'Reilly's report upon this gaol to the Government is given hereunder:

"I visited the Sault Ste. Marie gaol on the 22nd June. There were seven male prisoners in custody, of whom four were under sentence to the Central Prison (two for larceny and two for assault), and were waiting transfer. The remaining three prisoners were under short sentences to the gaol for larceny.

"The gaol was found to be well kept, being clean and neat in all respects. Several improvements are much needed here, to which the attention of the Public Works Department has been called. The first is the want of a proper residence for the gaoler. He and his family have to live in a low basement, which is very damp, dark and unwholesome. Their living, cooking and sleeping rooms are all here, and as there is no prison kitchen, the cooking for the gaol has also to be done in the gaoler's quarters. A prison kitchen and a store-room are also required. Room for these could probably be found in the basement if the gaoler and his family were removed therefrom."

TORONTO GAOL.

	1882.	1883.	1884.
Prisoners committed during the year.....	2,636	2,633	3,251
Greatest number confined at any one time	152	162	216
Number of re-committals.....	1,078	1,117	1,553
Total cost of maintaining gaol..... ..	$18,185.63	$16,001.56	$18,347.69

I made an official inspection of the Toronto gaol on the 31st May and found that there were 153 prisoners in custody, 111 males and 42 females. Ten males and two females had been committed as insane. Of the rest of the prisoners, eighty-four males were under sentence for offences as follows: five for assault, fifty-one for drunkenness and disorderly conduct, fourteen for larceny and receiving stolen goods, and fourteen for trespass and vagrancy. Of the females under sentence, there were twenty-seven for drunkenness and disorder, three for keeping disorderly houses and being inmates of the same, and three for trespass and vagrancy. There were three males waiting trial for stabbing, larceny and embezzlement respectively, and one woman was waiting trial for larceny. The remaining number, fourteen males and six female prisoners, were on remand, charged with the following offences: two males and four females with complicity in murder, two males with assault, four males and one female with insanity, three males and one female with drunkenness and disorder. A noticeable fact was that the bulk of the gaol population was composed of healthy and physically strong-looking young men, who did not show a marked criminal appearance when compared with those of the class usually found in imprisonment.

On the 29th April a prisoner, under sentence for sixty days for assault, effected his escape, but was recaptured on the 15th May. He was one of a number in charge of two turnkeys, working in the gaoler's garden. On pretence of going to the water-closet, he slipped off his shoes and ran from the premises. The gaoler's orders are not to take any prisoner sentenced to more than thirty days to exposed positions on the premises or outside the gaol walls, but by a mistake this man was taken out. The sequel shows the necessity of subordinates strictly adhering to the rules laid down for their guidance in the discharge of their duties.

I found that a number of female prisoners were employed in picking and preparing hair for upholstery work. The gaoler spoke favourably of this as a suitable employment, as the prisoners could be kept actively at work without interfering with their safe keeping or in any other way increasing risk when ordinary supervision is maintained. For these reasons it is very desirable that a sufficient quantity of material should be supplied so as to keep all the female prisoners constantly at work.

On all sides I saw evidence of good discipline and order. The premises were in a commendable condition of cleanliness. The ventilation was good except in the sick-rooms, both on the male and female sides, as these places are not supplied with closets such as are placed in the ordinary wards and, on account of this want, the air was offensive. It was reported to me that the gaol surgeon had made representations in regard to the necessity for supplying them, and the matter will no doubt receive the necessary attention from the committee in charge at an early day.

I made a second inspection of the Toronto gaol on the 25th October, and found 153 prisoners in custody, ninety-four males and fifty-nine females. Of the males, four were under sentence for assault, one for destroying property, ten for larceny, two for trespass, forty-three for drunkenness and disorderliness. Of the females, three were under sentence for being inmates or keepers of disorderly houses, two for larceny, and forty-three for drunkenness and vagrancy. There were eleven males awaiting trial, one charged with rape, one with felonious wounding, six with horse and cattle stealing, one with larceny, and two with embezzlement. There were also two females awaiting trial, one charged with murder, and the other with manslaughter. There were eight males on remand, one charged with felonious wounding, and the others with drunkenness and vagrancy. There were two debtors detained, and twenty-two lunatics, thirteen males and nine females, were awaiting removal. The large proportion of commitments appear to have been made for drunkenness and vagrancy, the sentences for such offences extending from ten to sixty days.

The whole building and premises were found to be in an excellent state of order and cleanliness, and the general condition of the prisoners showed that thorough discipline and control was regularly maintained. The sick rooms, both in the male and female wards, which formerly were without closets, have since the date of my last visit been furnished with them, and the result is that the nauseous smells formerly noticed are gone, and the air in the apartments can now be kept pure and wholesome. There were fourteen male and seven female prisoners suffering from various ailments, who, besides their attendants, were lodged in the different sick rooms of the gaol at the time of my visit, and as these apartments are comparatively small, the necessity for the improvements referred to is obvious.

Walkerton Gaol.

	1882.	1883.	1884.
Prisoners committed during the year	54	47	58
Greatest number confined at any one time..	9	10	10
Number of re-committals	7	3	7
Total cost of maintaining gaol	$1,626.36	$1,728.14	$2,340.25

The following report was made to the Government by Dr. O'Reilly :—

"My first inspection of the Walkerton gaol for the current year was made on the 8th May.

"There were four prisoners found to be in custody, three males and one female, all of whom were under sentence.

"This gaol is always the perfection of cleanliness and neatness, and all the books are well kept.

"The gaoler reported that a portion of the roof needs new shingles. The attention of the county authorities was called to this. I also recommended that the interior of the goal be repainted; it is a long time since it has had a coat of paint, and it is needed very much.

"If these two recommendations are carried out there will be nothing wanted to make this gaol complete in all respects."

The gaol was again inspected by Dr. O'Reilly during the official year, and the report, copied hereunder, made to the Government:—

"On my second visit to the gaol made on the 23rd September, there were only three prisoners, all males, in custody. One was waiting removal to the Kingston Penitentiary, having been sentenced thereto for two years for larceny, assault and gaol-breaking; another was under sentence for thirty days for a common assault, and the third had been sentenced to two months' imprisonment for an assault upon his wife.

"The gaol building has been newly roofed and painted and cleaned throughout. It is always well kept, and a credit alike to the county and to those concerned in its management."

WOODSTOCK GAOL.

	1882.	1883.	1884.
Prisoners committed during the year.....	201	198	341
Greatest number confined at any one time	31	29	35
Number of re-committals.....	92	87	129
Total cost of maintaining gaol.....	$3,231.65	$4,209.78	$3,437.50

Copies of Dr. O'Reilly's reports to the Provincial Secretary are subjoined:

"An inspection of the Woodstock gaol was made on the 28th April. There were ten prisoners in custody, eight males and two females. Two of the male prisoners were charged with larceny and were waiting trial. All the others were under sentence for minor offences. One of the female prisoners is an imbecile and has been an inmate of this gaol, under orders of the Superior Court, for many months. She is useful here, and, being quite unfit to be at large, is probably safest where she is.

"The general condition of the gaol was fairly good; the beds and bedding, as well as the cells, were in as good order as could be expected, as were also the yards. Thirty-five suits of clothing were found to be in store and in use by the prisoners. Some of the clothing was somewhat worn, but there did not appear to be any immediate necessity for a fresh supply.

"The books are properly kept and found to be correct. Only one case of punishment had been recorded since the last inspection, being that of a prisoner under sentence to hard labour, who was committed to the dark cell for a few hours for refusing to work.

"It was reported to me by turnkey Ross, then in charge of the gaol (the gaoler being absent), that a coloured prisoner, under sentence for two months, had made his escape the previous day by running away from the gaoler's stable, which is outside the gaol walls, and where he was at work at the time. Turnkey Ross, who was in charge of the prisoner, was unable to overtake him. I shall make special enquiry into this case when I receive the official report of the Sheriff upon the facts."

"The second inspection of the Woodstock gaol was made by me on the 27th September. There were ten men and six women in custody, none of whom were charged with serious crimes.

"The gaol was found in an unsatisfactory condition in some respects. The closets are foul, and, in my opinion, are beyond the possibility of satisfactory improvement. I strongly urge the adoption of earth closets in this gaol. The wooden flats, which are used instead of bedsteads, are infected with vermin, and

the gaoler stated that he cannot keep them clean. He took several of them out to show to me, and I ordered him to burn them with any others found in a like condition. There is only one remedy for this state of things, and that is the substitution of proper iron bedsteads. The burning process will have to be continued until a better state of things is brought about."

WELLAND GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	177	235	300
Greatest number confined at any one time.	30	43	81
Number of re-committals.....	62	85	116
Total cost of maintaining gaol	$2,544.00	$3,315.13	$3,805.00

The following minute was entered by Dr. O'Reilly in the minute book :—

"The first statutory inspection of the Welland Gaol was made on the 14th May.

"There were nine prisoners in custody, eight males and one female. Three of the male prisoners were under sentence for minor offences ; three waiting trial ; one held for want of sureties to keep the peace ; two were vagrants, and one a lunatic. The one female prisoner was also under sentence as a vagrant.

"One of the prisoners, an old man, sentenced as a vagrant, was in a dying condition. He is said to be over 80 years of age, and has frequently been an inmate of the gaol charged with vagrancy. His only crime is poverty, and he is there in a cell, dying, with no attention or nursing other than is possible for him to receive in a common gaol. The last entry in the Surgeon's book with reference to him was on the 15th April, nearly a month previous to my visit, and that entry says nothing can be done for him. It does not appear from the book that the Gaol Surgeon has seen him since.

"An examination of the closets in the yard disclosed the fact that one of them is very foul, arising from the saturation of the wooden part of the urinals. The Sheriff has been desired to have all the wood work attached to the urinals torn out and replaced with galvanized iron. These closets are of good construction, well drained, and ought not to be allowed to become foul and thus pollute the atmosphere of the gaol yard. In all other respects the gaol was found to be in good order.

"My visit to this gaol was in the evening after locking-up time, and I noticed what appeared to me to be an apparent laxity in the care of locking-up. All the doors which should have been locked were not locked ; but the explanation given me was that a sufficient number of them were locked to secure the safety of the prisoners.

"I called the attention of the Sheriff, and the gaoler also (the latter being new to his work), to the fact that the gaoler's duty was not fully performed while any of the precautions provided against the escape of prisoners were neglected, and I left strict injunctions that in future no doors were to be left unclosed."

Dr. O'Reilly again visited the gaol during the year, and reported upon it to the Government as under :—

"A second inspection of the Welland Gaol was made by me on the 25th September. There were in custody on that occasion eleven prisoners, ten of them being males. The one female had been sentenced to six months' imprisonment for the crime of horse stealing. Of the males, one was insane ; one was waiting trial for burglary ; one was waiting trial for assault ; two were under sentence for assault ; one was a vagrant, and the rest were drunkards.

"Owing to work in connection with the steam-heating of the gaol and Court House being in progress, the gaol was not in a very tidy condition. A very great improvement will have been effected when the steam-heating arrangements are completed, and I think the county is to be congratulated upon its enterprise in having the job done in what appears to be a most thorough manner. A new kitchen for the turnkey has been added to his quarters in the gaol, thus supplying a much felt want. The quarters of the gaol officers can now be said to be very good in all respects, except that they are in the basement, which will always be objectionable."

WHITBY GAOL.

	1882.	1883.	1884.
Prisoners committed during the year	92	116	101
Greatest number confined at any one time.	15	15	20
Number of re-committals	27	46	41
Total cost of maintaining gaol	$2,188.51	$1,950.79	$2,004.82

The Whitby gaol was inspected by me on the 15th April, when four prisoners were found in custody, three males and one female. Of the former, one had been committed charged with larceny, and the other two with vagrancy. The female prisoner was charged with assault.

The clean and orderly condition of the gaol and premises shewed due care and attention on the part of the gaoler. The books also were correctly kept.

There was noticeable improvement in the sanitary condition of the gaol since the date of my previous visit. The floor of the basement in the gaoler's quarters had been concreted, and the connecting-pipe between the sink and the main drain had been shut off; the branch leading from the main drain into the closets in the north corridor had also been closed. With these alterations a decided improvement has been effected, and although little or no ventilation exists in any of the corridors, the smell formerly complained of appears to have been removed, and the air throughout the building is much purer.

The cell locks in the female ward required attention. Apparently they had been imperfectly fitted, as the bars which fasten the gates to the locks were so loose that they could be easily opened with a stout nail, or any instrument strong enough to press the bolt from its place back into the lock. Under these circumstances I recommended the immediate substitution of Scandinavian locks. When it is understood that the ceilings of the corridors are simply lath and plaster, and covered with an ordinary roof only, the necessity for properly securing the cells becomes the more apparent. I was informed that the County Council had been again considering the question of making improvements in the gaol premises. I therefore pointed out that one of the most needed improvements is a separate kitchen for gaol purposes, there being at present only the kitchen attached to the gaoler's quarters, and which is separated from the prison proper by the ordinary hall and locked gate. Under these conditions it is manifest that the prisoners cannot be employed to do cooking work, except under the closest supervision of the gaoler or turnkey.

Certain matters regarding improvements and repairs made in former years, and the cost of heating the gaol, were enquired into, but a full consideration of them had necessarily to be deferred until further details were submitted.

I made a second inspection of the Whitby Gaol on the 22nd September, and found four prisoners in custody, three males and one female.

The premises were well kept, but the ventilation remained unimproved, the result being that the noxious smell in the corridor occupied by male prisoners is

almost unbearable. With a view to remedying this defect, three small openings have been made in the base, from the outside of the building, underneath the floor of the corridor referred to, but as no provision is made for the admission of fresh air to the corridor itself, these ventilators are valueless as a means of improving the sanitary condition of the gaol. It seems to be a somewhat difficult matter to determine the cause of there being foul air throughout the building, and particularly why it should be more apparent in the male prisoners' corridor. The connecting branch drain leading into the closets of the wards has, I am assured, been shut off, and for a time the closing of this drain appeared to have the desired effect. Beyond question, however, there is necessity for a yet more effective means of shutting out the bad air, and, by proper ventilation, the admission of a free current of air untainted by the foulness which now finds its way into the building. The Sheriff was requested to bring these matters again before the Gaol Committee, with a view of having such alterations made as will remedy the evil

Algoma District Lock-ups.

The Lock-ups in this District were inspected by Dr. O'Reilly, who made the following reports upon them to the Government:—

Gore Bay Lock-up.

"I visited this place on the 21st June, and found the lock-up empty and the door locked. The keeper was away a short distance on some errand, and as the time at my disposal would not admit of my waiting for his return, I did not see him or the interior of the building. There were no prisoners."

Little Current Lock-up.

"This lock-up was inspected on the 21st June. The building was, as usual, empty of prisoners, but it was clean and well looked after."

Manitowaning Lock-up.

"I inspected this lock-up on the 21st June. There were no prisoners in custody. Since my last visit a residence for the keeper has been built, attached to the lock-up. The place is now very complete and in good order."

CENTRAL PRISON.

During the past official year one of the matters of principal interest connected with the history of the Central Prison was the destruction by fire, on the 20th November, 1883, of the North Shop, in which Messrs. Brandon and Company's woodenware works were carried on, and the subsequent rebuilding of it.

A searching enquiry was held into the circumstances attending this unfortunate occurrence, but the exact cause of the fire could not be discovered. Many theories were put forward and examined into, but no satisfactory conclusion was arrived at, as no direct evidence was elicited, which enabled me to speak authoritatively on the matter. The weight of evidence was, perhaps, slightly in favour of the supposition that an over-heated journal was the original cause of the fire. Nothing was brought out at all supporting the idea that it was the work of an incendiary.

The rebuilding of the shop was commenced as soon as practicable, the larger proportion of the cost being covered by the amount received from the insurance

companies. Prison labour was employed in the work of reconstruction, and the saving thus effected was sufficient to enable us to add to the shop an extension, measuring 80 feet by 40 feet. In rebuilding, a number of matters had necessarily to be considered, such as the general adaptation of the structure to the work to be carried on in it, and the making provision, as far as possible, for future requirements, as well as for those of the immediate present. It was also needful to see that the arrangement of the shop was such as to secure the greatest measure of accommodation and facility for the proper carrying on of the industry; while at the same time the means of supervising the prisoners were sufficiently good as to ensure that discipline would not be injured through any structural defect. These and similar matters, including the safe keeping of the prisoners, and the maintenance of good order while the work was in progress, and the prison to some extent unavoidably disturbed, demanded the exercise of much thought and precaution.*

The renewal and rearrangement of the agreements with the contractors for the employment of prison labour, in the wood-working and broom-making industries, were also effected under such provisions as will add to the revenue of the prison from these sources, and at the same time by an equitable adjustment of details, the contractors will have afforded them increased facilities, which experience has indicated will result in mutual advantage.

In the tables and statements which follow will be found details of the movements of the prison population, and of the operations of the industrial department. Following them again are copies of the reports made by me to the Government from time to time, upon the condition, etc., of the prison when undergoing inspection.

The first table gives a summary of the committals to and discharges from the prison during the years ending on the 30th September, 1883, and on the 30th September, 1884:—

	1883.		1884.	
In custody at commencement of year (1st October)..	324		273	
Committed during the year.....	669		723	
Recaptured.....	1		1	
Retransferred from Asylum.....	1		..	
Total number in custody during year.....		995		997
Discharged on expiration of sentence.....	650		622	
" " payment of fine	46		24	
" by remission of sentence	8		6	
Retransferred to common gaol as unfit for labour....	1		1	
Died in the Prison Hospital.....	2		3	
Transferred to a lunatic asylum	7		2	
Escaped	6		4	
Conviction quashed	2		..	
Total discharges, deaths, etc.....		722		662
Remaining in custody at close of year (30th Sept.)....		273		335

The population of the prison always fluctuates in correspondence with the increase or decrease in the number of committals to the common gaols. As there was an increase in such committals during the year, so there was a corresponding

* Since the close of the official year, the shop has been completed and work recommenced n it.

rise in the number of prisoners admitted to the Central Prison. At the close of the official year the population was 62 in excess of what it was at the end of the previous year; and at the time of writing it is higher than it has ever been in the history of the prison. However, notwithstanding the increased number of prisoners coming within the prison, the average daily population was less than in the previous year, as the commitments only began to increase during the last five months of the official year.

The number of prisoners sentenced direct to the prison and the number who had been sentenced to the common gaols, and afterwards transferred to it, are shewn in the next statement:—

	1883.	1884.
Sentenced direct to the Central Prison	286	374
" to the common gaols and afterwards transferred	383	349
	669	723

The proportions, as compared with the previous year, are reversed.

The discharges present no special features, except the falling off in the number discharged on payment of fine, and the greatly reduced number of prisoners who were found to be insane and therefore transferred to an asylum.

The periods of sentence awarded to the prisoners admitted to the prison are shewn in the usual form, together with like information respecting the commitments to the prison since its establishment. The average period rose to a little over six and a-half months:—

SENTENCE.	1874.	1875.	1876.	1877.	1878.	1879.	1880.	1881.	1882.	1883.	1884.
Over 1 m'th and under	.....	.....	15	6	7	11	17	171	125	140	81
" 1 " and up to 2	.....	.....	10	2	35	16	23	101	127	105	88
" 2 m'ths " " 3	69	13	73	90	100	40	45	38	91	95	118
" 3 " " " 4	54	38	110	127	65	43	46	38	.....	.....	.....
4 months	50	56	66	76	.....	59	47	53	60	43	61
5 "	5	18	7	12	11	11	11	5	10	9	14
6 "	97	205	186	179	214	224	186	174	199	151	203
7 "	.....	2	1	1	6	2	6	5	4	5	6
8 "	6	8	4	1	7	6	3	5	6	5	4
9 "	4	7	20	1	22	20	27	20	15	9	18
10 "	1	4	6	.....	4	.....	3	1	4	1	5
11 "	1	.....	2	.....	1	4	.....	2	.....	2	.....
12 "	38	45	94	88	94	93	87	72	69	67	75
13 "	.....	.....	1	.....	.....	1	.....	.....	1	.....	2
14 "	.....	.....	.....	2	.....	1	.....	1	2	2	1
15 "	2	1	7	1	5	1	6	4	3	3	2
16 "	.....	.....	.....	.....	2	1	4	.....	1	2	1
17 "	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....
18 "	10	12	17	27	30	17	23	23	11	13	13
19 "	1	.....	.....	.....	1	.....	1	.....	.....	.....	.....
20 "	2	.....	.....	.....	2	2	.....	1	2	2	2
21 "	.....	.....	1	.....	1	.....	2	3	.....	.....	.....
22 "	1	.....	1	2	5	2	1	2	2	.....	7
23 "	4	3	8	20	8	7	10	12	20	5	13
24 "	10	14	8	18	8	3	9	7	11	10	8
48 "	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
2½ years .. Boys transferred from Reformatory owing to incorrigibility.	1	.....	.....	.....	.....	.....	.....	.....	1	.....	.....
3 " ..	3	.....	.....	1	2	1	1	3	2	.....	.....
3½ " ..	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
4 " ..	5	.....	.....	.....	1	1	2	3	.....	.....	.....
4½ " ..	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
5 " ..	4	.....	.....	1	4	1	.....	1	.....	.....	.....
Totals	370	426	637	655	636	567	560	745	767	669	723
Average period of sentence each year	6 12-30 M'ths.	7 3-30 M'ths.	6 20-30 M'ths.	5 22-30 M'ths.	7 10-30 M'ths.	7 3-30 M'ths.	7 14-30 M'ths.	5 12-30 M'ths.	5 12-30 M'ths.	4 28-30 M'ths.	6 18-30 M'ths.

General Statistics.

Statistics relating to the total number of prisoners committed to the prison, as well as to those sentenced during the past year are appended:—

Nationalities.	Prisoners committed during the year.	Number committed up to 30th Sept., 1884.
Canadian	353	3,133
Irish	112	1,164
English	130	1,182
United States	76	725
Scotch	30	356
Other countries and unknown	22	203
	723	6,763

Religious Denominations.

Church of England	233	2,537
Roman Catholic	289	2,352
Presbyterian	78	705
Methodist	92	808
Other Denominations, etc.	31	361
	723	6,763

Civil Condition.

Married	242	2,120
Single	481	4,643
	723	6,763

Social Habits.

Temperate	85	1,451
Intemperate	638	5,312
	723	6,763

Educational Status.

Could read and write	556	5,035
Could read only	54	733
Could neither read nor write	113	995
	723	6,763

MAINTENANCE EXPENDITURE.

SERVICE.	Year ending 30th Sept., 1883.		Year ending 30th Sept., 1884.	
	Total expenditure.	Average daily cost per prisoner.	Total expenditure.	Average daily cost per prisoner.
	$ c.	cts.	$ c.	cts.
Medicine and medical comforts	345 36	0·325	220 30	0·020
Meat and fish	9,148 17	8·4	9,147 20	8·571
Flour, bread and meal	4,749 15	4·375	4,305 35	4·034
Groceries	5,081 07	4·675	4,182 85	3·919
Bedding, clothing and shoes	3,148 52	2·9	6,781 62	6·354
Fuel	4,437 68	4·1	3,314 32	3·105
Gas, oil and candles	1,017 30	0·950	1,016 18	0·952
Laundry, soap and cleaning	835 97	0·775	1,101 81	1·032
Stationery, advertising and printing	585 42	0·550	390 18	0·365
Library, school and religious instrnction	700 00	0·650	700 00	0·655
Water	250 00	0·225	2,160 37	2·024
Furniture and furnishings	209 89	0·2	415 25	0·389
Stable expenses, forage, etc.	159 25	0·150	386 91	0.362
Repairs, ordinary	503 17	0·475	529 15	0.495
Unenumerated	662 15	0·6	981 27	0·919
Farm and grounds	357 25	0·350	141 12	0·132
Salaries and wages	18,811 64	17·3	19,484 69	18·258
Total	51,001 99	47·0	55,258 57	51·781

These figures shew the cost of maintaining the prison during the last official year and the one preceding it. The cause of increase in 1884 will be seen to be in two items, those of bedding and clothing, and water. The stock of supplies coming under the former head had to be almost entirely renewed during the year, in order to meet the increased demands which it was evident would be made upon it. The large expenditure for water is explained by the fact, that during 1883 the manner of charging for the water supplied to the prison was in dispute, and only $250 were paid on account. This year, not only has a higher rate been charged, but some arrears have also been paid.

MANUFACTURING OPERATIONS.

A statement of the expenditure is appended, and to it is added the cost of maintaining the prison :—

	1883.	1884.
Carpenter and cabinet shop	$ 400 47	$ 815 52
Tailor shop	3,389 48	4,881 91
Shoe shop	4,615 07	3,283 75
Blacksmith's shop	390 52	367 98
Broom shop	343 98	629 62
Woodenware department	215 19	82 90
Brickyard	1,978 11	3,415 64
Gardening	26 50	.....
Stationery, advertising and printing	223 37	149 02
Miscellaneous	751 97	767 82
Salaries and wages	4,656 60	4,935 66
Manufacturing expenditure	$16,991 26	$19,329 82
Maintenance expenditure	51,001 99	55,258 57
Total expenses	$67,993 25	$74,588 39

The increase of $2,338.56 in the expenses of carrying on of the manufacturing operations of the prison is caused by the larger expenditure for material, etc., for the tailor's shop and the brickyard. In compensation for this, these two departments shew a very large increase in revenue, as will be seen in the following statement:—

	1883.	1884.
Broom shop, hire of prisoners	$8,925 90	$ 7,882 89
Woodenware shop, hire of prisoners	7,005 75	2,105 96
Brickyard, sales	3,414 60	13,169 13
Tailor's shop, sales	1,571 27	6,478 79
Shoe " "	4,460 20	4,111 64
Carpenter's shop, sales	474 37	143 60
Blacksmith's "	53 99	97 80
Gardening for Reformatory	387 13	.....
Miscellaneous	471 25	452 75
	$26,764 46	$34,442 56

If this revenue be deducted from the cost of maintaining the Prison and of carrying on the industries, the actual cost to the Province remains at $40,145,83, or 37.66 cents per prisoner per day.

The table appended shews the manner in which the prisoners were employed, and the number of days' work which was performed at the different industries:—

	1883.	1884.
In the broom shop for contractors	27,780	24,913 days.
" woodenware shop for contractors	23,346	14,852 "
Total contract work	51,126	39,765 "
In the brickyard	5,659	11,543 "
" tailor's shop	3,234	4,407 "
" shoe shop	2,812	1,920 "
" carpenter's shop	1,043	2,414 "
" tinsmith and engineer's shops	276	1,164 "

In the blacksmith's shop	600	593 days.
In rebuilding the north shop, permanent improvements and work on Prison and Reformatory grounds	4,718	7,568 "
Number of days of productive labour	69,468	69,374 "
" " domestic work	20,556	14,191 "
Total number of days worked	90,024	83,565 "

The proportion which the number of days of productive labour bears to the total stay of the prisoners during the two years will be seen in the following summary:—

1883.

Total stay of prisoners	108,722 days.
Number of days' productive labour	69,468 "
Proportion	63.89 per cent.

1884.

Total stay of prisoners	106,592 "
Number of days productive labour	69,374 "
Proportion	65.08 per cent.
Difference in favour of 1884	1.19 "

That this increase in favour of the year just ended is most satisfactory will be conceded at once, when it is remembered that this increase has been effected in the face of the stoppage of the works formerly carried on in the North shop, which was burned down before two months of the year had elapsed.

Transfer of Prisoners.

A table shewing the expenses incurred in bringing the prisoners to the Central Prison is annexed:—

WHEN TRANSFERRED.	Number transferred.	Prisoners' fares to the Prison.	Travelling expenses and salary of Bailiff.	Cab hire and food for prisoners.	Total.
		$ c.	$ c.	$ c.	$ c.
October, 1883	69	155 85	221 55	38 40	435 80
November, "	61	144 05	182 80	41 50	368 35
December, "	41	85 45	154 50	30 25	270 20
January, 1884	46	131 80	164 25	37 25	333 30
February, "	39	104 10	165 10	31 75	303 95
March, "	45	83 35	192 15	37 75	313 25
April, "	73	146 75	191 05	45 60	383 40
May, "	81	203 30	207 05	52 15	462 50
June, "	42	162 20	241 95	42 75	446 90
July, "	85	176 25	203 20	54 75	434 20
August, "	61	115 60	171 30	46 40	333 30
September, "	81	89 45	156 40	44 25	290 10
Total	723	1,598 15	2,251 30	522 80	4,378 25
Average expenses incurred per prisoner		2 21	3 11	72	6 04
Preceding year	673	1 77	3 17	70	5 64

The increase in the prisoners' fares is caused by more prisoners being brought this year from longer distances; viz., 9 from Thunder Bay and Sault Ste. Marie, against 1 in the preceding year; 38 from Sandwich, against 18; 10 from Pembroke, against 1; 8 from Cornwall, against 2. The gaols near at hand sent less; for instance, Hamilton 65, against 92. The expenses of the bailiff shew a reduction.

Discharged Prisoners.

Three hundred and fourteen discharged prisoners were returned to the places they came from, at a cost of $1,015.52, chargeable to the fund for the Administration of Justice. The places they were sent to are shewn below:—

WHERE SENT.	Number of Prisoners.	Amount paid.
		$ c.
Arthur	1	2 15
Barrie	12	23 45
Brampton	1	75
Berlin	10	19 20
Brantford	4	8 00
Brockville	1	4 15
Belleville	1	2 10
Buffalo	4	12 60
Burlington	1	1 00
Coburg	8	14 50
Chatham	13	66 80
Cornwall	4	22 80
Detroit	1	5 00
Galt	3	5 10
Goderich	1	4 00
Guelph	4	6 00
Gananoque	1	3 50
Hamilton	34	40 80
Ingersoll	4	11 40
Kingston	13	46 55
Lindsay	2	4 65
London	44	149 15
Lefroy	1	1 60
Marquette	1	6 50
Milton	1	1 05
Napanee	1	3 10
Newtonville	1	1 80
Newcastle	1	1 50
Ottawa	18	116 70
Owen Sound	7	25 55
Oshawa	1	1 10
Port Hope	7	11 85
Perth	2	12 90
Pembroke	3	21 30
Peterborough	2	5 70
Preston	1	1 70
Parry Sound	1	5 00
Sandwich	1	5 00
Sault Ste. Marie	1	6 50
St. Thomas	29	103 85
Stratford	3	8 25
Strathroy	3	12 00
Sarnia	10	38 00
St. Catharines	8	17 20
Simcoe	3	7 90
Suspension Bridge	4	10 40
Tilsonburg	1	3 00
Trenton	1	3 35
Welland	3	6 60
Windsor	22	98 52
Woodstock	5	12 95
Walkerton	1	3 60
Whitby	3	2 50
Ridgetown	1	4 90
Total	314	1,015 52

INSPECTIONS.

My Minutes of Inspection were as as under:—

Numerous visits to the Central Prison have been made by me since the beginning of the current year.

The extensive fire which destroyed the north shop on the afternoon of the 20th November last has given rise to many matters requiring attention, and one of the main considerations in connection therewith has been the question of its origin, which, if determined, would lead to the adoption of such measures as would be most likely to prevent a recurrence of such a disaster.

With this view enquiry has been continued at intervals since the occurrence of the fire, and also during this visit of inspection which has extended over the 27th, 28th, and 29th of February, with the hope that some clue would be got which would lead to the discovery. There does not appear to be any room for doubt as to the precise locality and time at which the fire broke out.

In consequence of the early darkening of the afternoon on which the fire took place, the prisoners were called from work at 4.55 p.m., and immediately marched to the prison and locked up for the night.

After handing over his prisoners, the engineer in charge at once returned to the boiler and engine rooms and remained for about ten minutes for the purpose of seeing that everything was in order, and, after satisfying himself in this respect, on being signalled, he, in company with the tower guards, returned to the prison guardroom.

Some ten or fifteen minutes later the alarm of fire was given, and those guards, who were first to see it, noticed flames issuing from the eastern ventilator on the roof of the north shop. On running across the yard to get the hose they saw that the fire was confined to a small space near the landing of the stairway on the second flat, and no reflection from it was observed, except on the upper half of the second storey windows at the east end of the shop. Returning with the fire hose, the assistant engineer hurried into the boiler room for the purpose of getting the water main valve key from the engine room where it was kept, and up to that time no fire appeared in either apartments, except what was falling down the shute from the second floor into the subway through which shavings and fuel were passed from the shop to the furnaces.

In view of these facts, which are substantiated by other guards who saw the fire when the alarm was first given, there does not seem to be any reasonable ground for doubt as to the locality where it originated, and also that for a short time it was confined to that locality.

Immediately underneath the ventilator, where the fire was first seen, boards had been laid on the wall beams as a temporary floor on which was stored some partly manufactured light wooden ware, and under, but attached to the beams, there was a short counter shaft from which was driven an emery wheel at a high rate of speed. There is therefore some reason for supposing that the fire may have originated from the overheating of this shaft, and when all the circumstances are taken into account it is difficult to assign any other cause for it.

Nevertheless certain reasons appear which do not favour this view, such as the fact that the shaft referred to was in that part of the shop, at the head of the stairway, where, of necessity the foremen, guards, and all the prisoners employed had passed out only a few minutes before the alarm was given, and it is only reasonable to conclude that if any fire had existed there at the time some one of the number would have discovered it.

As therefore, the fire did not originate in the boiler or engine room, and it does not appear probable that it was the act of an incendiary, the true origin

seems likely to remain unsolved, simply on account of the absence of any positive knowledge in regard to it.

In consequence of the destruction of this building the industrial operations of the prison have been very materially deranged, and the loss occasioned by virtually withdrawing the labour of an average of 74 men from one of the more remunerative occupations can be readily understood. Although in all moderate weather they have been constantly employed in the brick yard, making preparations for next season's operations, yet such employment is of but little pecuniary importance when the work had to be done in the winter, with frost so severe as that of the present season; every preparation, however, must be made to secure employment for the prisoners in the brick yard during the coming season, till the workshop is restored; and with that purpose in view, all the wood-work of the brick-making machines is being renewed, and they are being put in a thorough state of repair.

During the days occupied in making the present inspection, I have visited all the different parts of the prison proper, and also the yards and workshops, with the view of judging as to the order, discipline, and efficiency of the institution in every respect; and, apart from the serious interference with the industrial work and question of labour already referred to, the general condition was found to be satisfactory.

Internally the prison is well kept and in good order. The books in the Warden's, Bursar's, and stores department, together with the stores of all kinds, were found to be neatly kept and in satisfactory condition. Labour in the various shops is being vigorously prosecuted, and the number of prisoners employed in each of them is limited only by the room necessary for properly carrying out the work.

Since the fire in the north shop, the manufacturing operations of T. C. Brandon and Company, in wooden ware have necessarily been restricted to what they can accomplish with the space at their disposal in the south shop, and in their efforts to utilize the room to the greatest advantage, the various machines have been closely set together: In view of this fact it is most important, on every account, that the shop should be kept in the best possible order, and all shavings, cuttings and refuse of every kind removed In this respect improvement can be made, and the attention of the Warden is called to the matter in order that it may be attended to at once.

On the last day of my visit on this inspection, there were 282 prisoners in custody, and their distribution among the various occupations was as follows:—

In the Broom shop	101	
" South shop	43	
" Tailor shop	19	
" Carpenter shop	8	
" Shoe shop	5	
" Machine shop	4	
" Brickyard	25	
Cleaning Prison yard	14	
" Corridors	16	
Domestics	39	
In the Hospital	8	
Total	——	282

During the autumn and winter the general health of the prison has been excellent, and of those in the hospital at present only one is reported ill, who has an acute attack of pleurisy.

The usual opportunity was given to each prisoner to make any complaint he might wish to state, but no real grievance came to my notice, and a fewer number than usual made any reference to the duties allotted to them. From personal observations made each day during my inspection, I am satisfied that the food supplied is sufficient in quantity, of good quality, and well prepared.

All necessary plans and specifications for the reconstruction of the north shop have been prepared under the direction of the Provincial Architect, and the prosecution of the work is only deferred until the sanction of the Legislature can be obtained for the expenditure of the sum required for the purpose. Some improvements will be introduced in the reconstruction of the shop, such as placing the shafting in a position which will reduce the friction and materially economize the power supplied for driving the machinery in use.

I made another official inspection of the Central Prison on the 17th and 18th July. There were in custody on the morning of the 17th, 297 prisoners, distributed and employed as follows:—

Broom Shop	48	
South shop	69	
Tailor shop	9	
Shoe shop	8	
Carpenter shop	9	
Re-building north shop	13	
In brick yard	58	
At Mercer Reformatory	5	
On garden and farm grounds	9	
Machinists and painters	6	
In hospital	4	
Convalescents and unfit for work	4	
Under punishment	7	
Domestics	48	
Total		297

The number of men employed in the brick yard is greater than during the season of 1883, and the prospect is that the output will largely exceed that of the former year.

The other principal industries of broom-making and wooden-ware manufacture are as busily prosecuted as can be fairly expected, with trade in its general depressed condition.

The arrangement for the rebuilding of the north shop by which all the material is supplied, and other work, is done by prison labour, is progressing very satisfactorily, more especially as it furnishes suitable employment for quite a number of men in a favourable locality for their safe-keeping, and in such circumstances generally as to maintain the ordinary routine and discipline of the prison intact. If the building had been constructed under contract, it is not likely that this favourable condition of matters could have been so well maintained, as the free labour necessarily employed would have proved a disturbing element when brought into such close proximity to a large number of prisoners under restraint.

Since my last recorded visit of inspection, there has been an increased display of insubordination and turbulence on the part of a small number of the prisoners; otherwise the ordinary discipline has been well maintained.

The greater number of dark cell punishments recorded during the time have been awarded in consequence of violent conduct, and wilful violation of prison rules by a few only of the more obstinate and criminal of the prisoners; but in

view of the fact that out of the full number now in custody, there are 93 who have been sentenced for the more aggravated crimes of assault, arson, burglary, counterfeting, house-breaking, perjury, robbery, riot and wounding, it is not surprising that some of them should continue to exhibit a disregard for all authority and restraint.

In restoring the north shop, the structural changes which are in progress are of importance, and when completed will put the building in a much more convenient shape for carrying on the manufacture of woodenware. First, in this regard, is the addition of 40x80 feet on the west end to admit of the large number of the men in the employment of the contractors being continuously kept at work in one building, and also admit of the use of the south shop for other purposes for which it is urgently required. In re-arranging the shop the important question of the oversight of the prisoners when engaged at their work has not been lost sight of, and the partition walls existing in the old shop have both been removed, leaving nothing to intercept the view on the ground floor except the division wall between the old and new part of the building in the west end, and the brick wall enclosing the engine and boiler rooms in the east end.

The closing of the several openings in the boiler and engine rooms, and the arching over of the basement, so that the three boilers in use can be placed side by side and be fed with fuel at the same furnace, will, in addition to its convenience, almost entirely do away with any risks of damge by fire. Closets are also added to each flat, which will in many ways remove annoyances and render the oversight and discipline of the men more easy and complete. Many improvements, which time and experience have shown to be desirable in the internal arrangement of the machinery, have also been provided for, and a material saving of power will result from the use of one line shaft only, running the entire length of the shop instead of using counter-shafting for detached machinery.

The work of reconstruction is well advanced and substantially done, and in carrying out the necessary changes and improvements due precaution has been taken not to exceed the appropriation provided for the restoration of the building and machinery.

A minute examination of all parts of the prison internally and externally shewed evidence of active oversight and prudent forethought and care in the management generally: with regard to the condition in which the south shop was found, however, improvement is required, and although a more or less untidy and disordered condition must necessarily exist in consequence of the limited room at the disposal of the contractors for the present, yet it is obvious that more regard for order could be maintained without interfering in any way with the work carried on.

The food served to the guards, and also that prepared for the prisoners, has been carefully examined and found to be well prepared, of good quality and properly served

On the 19th and 20th of September, I made a third inspection of the Central Prison, and found that on the second day of my visit there were 328 prisoners in custody. On the corresponding day of last year there were 274, shewing that the present population is an increase of 54 when compared with that of the former year.

The distribution of the prisoners, on the 20th of September, was as follows:

Broom Shop	59
South shop, woodenware	65
Tailors' shop	14
Masons, Bricklayers, and helpers	12
Carpenters' shop	12
Machinists and Steam-fittters	7

Brick-making	78
Garden and grounds	18
Sick, in hospital and cells	12
Unfit for work	5
Domestic work	46
Total	328

During the days devoted to this inspection, the general condition of the prisoners was enquired into, and from the prevailing quiet and contentment, together with my observations in regard to the food and clothing supplied them, and the evidence of careful administration of the rules governing the institution, it was apparent that the treatment they were receiving was good, equal to their necessities, and as considerate as the exigencies of prison life would warrant. In corroboration of this conclusion, it is worthy of note that when each prisoner was offered the usual opportunity of making a statement of any grievance which they might have, only three of the whole number proffered any complaint, and these were so trivial and worthless as to be unworthy of notice.

In view of the number of prisoners, who when received are to a greater or less degree in an impaired state of health, the average of unemployed on account of physical causes, is not in excess of what might be expected. There are at present nine prisoners unfit for labour, all of whom strictly belong to the class referred to, and excepting those, the general health of the prisoners continues to be exceedingly good.

The principal industries carried on are in a fairly prosperous state, and during the summer months brick-making has been actively prosecuted. It is estimated that the output for the season will amount to about two millions, or more, as the weather may prove favourable for the work.

In consequence of the general depression in business, the broom-making industry has been less active than it was a year ago, a greatly lessened demand has resulted, otherwise the business is in good condition, and, so far as the article produced is concerned, the product is superior. The drying-room, which has been put in since my former inspection, is a benefit in many ways, but especially by saving the labour of carrying the brooms from the upper flat of the work-shops to the upper flat of the south shop, and the repeated handling necessary to get them dried. The brooms are also much improved in appearance, as the drying process prevents the wire binding from rusting, the corn from moulding, and the handles from shrinking.

The woodenware industry has also had to be conducted under the influence of the prevailing depression, and the demand for the products of that department has been likewise lessened; a considerable number of men had been kept employed, however, and the number is being increased. In this regard, the complete restoration and enlargement of the north shop will provide all the necessary room for work of this kind, which can properly be carried on within the prison enclosure, and as the building is nearly finished, the opportunity for conducting this branch of business will be much improved for the future.

Since the date of my previous inspection, thorough investigation has been made as to the capacity of the engine formerly in use in the north shop, and the conclusion arrived at is, that if the engine was refitted and fully restored as it was before the fire, it would not have sufficient power for the work, and also that no economical arrangement could be made to utilize the one in the south shop so as to get the required power from both. Under these circumstances, and after inspecting an engine owned by Messrs. Ingles & Hunter, which has been exhibited,

in operation, at the Industrial Exhibition, instructions have been given to close an arrangement at once for it, by which both the old engines will be taken in part payment for the new one. The power of the new engine will be guaranteed, and will no doubt prove satisfactory in every respect.

As the number of prisoners now available affords a good opportunity for accomplishing work, the Warden is authorized to commence the construction of the addition to the stable which is required, and also the re-construction of the ice-house; in the latter case the old wooden building will be removed and will be replaced by a new structure of brick, which will afford less danger to the premises in the event of fire.

The general condition of the prison was found to be very satisfactory in regard to its state of order and cleanliness, and since the re-painting of the hospital, that building is much improved both in appearance and from a sanitary point of view.

ANNUAL REPORT OF THE WARDEN OF THE CENTRAL PRISON OF TORONTO.

R. Christie, Esq.,

Inspector of Prisons and Public Charities, Ontario:

Sir,—I have the honour herewith to submit the Eleventh Annual Statistical Report of the Central Prison, for the year ending the 30th September, 1884.

The year was entered upon with 273 prisoners in custody. All the industrial departments in active operation, all the prisoners actively employed, none unfit for work, and none sick, or in the Hospital. There have been admitted during the year under direct sentence 374, and transferred from the County Gaols under sentence thereto 349, and recaptured one, total 724; an increase of fifty-three over the preceding year. In the same time there have been discharged under the several heads 658, and four escaped, leaving at the close of the year 335 in custody, being sixty-two more than in 1883, and present appearances indicate that not only will the capacity of the prison be taxed to its utmost during the coming winter, but in consequence of the prevailing depression in general business, and in nearly every branch of manufacturing throughout the Dominion, which must to some extent affect the contractors for the prison labour, I apprehend some difficulty in finding employment for them, should the number be largely increased.

The destruction of the North shop by fire on the 20th November, and the consequent throwing of one-fourth of the prisoners out of employment, at the commencement of winter, at a time when their labour could not be turned to account in any other remunerative industry, was most disappointing, and not only reduced the revenue, but disarranged the working of the whole institution. The greater portion of the prisoners employed in the shops had too long a time to serve, to warrant putting them at such work as could be done at that season in the brick-yard; and until settlement could be effected with the Insurance Companies holding risks on the building, and a grant obtained from the Legislature for its restoration, the work of rebuilding could not be proceeded with; consequently, while for some months the prisoners were kept at such work as could be found for them within the walls, yet it added little or nothing to the revenue of the prison.

About the middle of February, a part of the machinery saved from the fire was placed in the South shop, and a limited number of prisoners employed therein, under contract with Brandon and Company.

In the early part of June the consent of the Honourables the Provincial Secretary and the Commissioner of Public Works was obtained to the rebuilding of the North shop by prison labour, and since then the work has been carried on as fast as the limited number of suitable workmen to be found among the prisoners could be got to do it. So far the work has been performed in a very satisfactory manner; indeed, I may say in every respect, equal to what it would have been by free labour, with this advantage,

that free labour has not been associated with the prisoners—in itself, at all times objectionable and detrimental to proper discipline—employment has been provided for the prisoners, and a large saving thereby effected. It is satisfactory at this stage of the operations to know that when the building is finished ready for occupancy, it will reflect creditably on the prison management. I am unable at this time to give the actual cost when finished, but estimating the value of the work upon the basis of contract prices, it would be worth at least $17,000. The addition of a wing, 40x80 feet, two flats, will make it a very convenient and commodious work-shop.

As soon as the season admitted of it in the spring, the wooden walls of the paint-shop and store-house were removed, and replaced with brick on a good stone foundation. It is now a substantial building. The cost of materials used was: for stone, sand and lime, $431; lumber, $30; 60,000 brick, and teaming, $411. Excavation, mason work, bricklaying, carpenter work and plastering, all done by prison labour, valued at $580; total, $1,452.

Beside these two buildings, there has been erected since the writing of my report last year, a new carpenter-shop with root-cellar underneath, at a cost of about $600 for materials and slating, irrespective of the prison labour, valued at $390; total, $990. The addition to the stable and the erection of the ice-house, to replace the temporary one constructed of wood, is now under way, and will be completed before the winter sets in.

I had hoped to complete the restoration of the north shop within the appropriation made for it, and to have had sufficient over to make a good start with the erection of a kitchen, which is so essential to the health, cleanliness, and comfort of the whole prison, but the enlargement of it, and consequent extra cost for materials, absorbed the grant, and exceeded my calculations.

Having made such a good exhibit of what can be done with prison labour, not only in the works to which I have referred, but in the return from the several industries, I again venture to bring forward the very urgent necessity that exists for the erection of a kitchen away from the main building, and the providing of at least a few reception cells. If an appropriation of what would be necessary to cover the cost of the materials, was made, say about $3,000, all the work could be done with prison labour.

In reviewing the operations of the past year, and making allowances for the disarrangements caused by the fire, they have been in the main satisfactory. The return from the several industries in the shape of earnings, have been as follows:

Broom-shop, $8,038.28; north and south shops, $5,394.56; brick-yard, $12,000; tailor-shop, $5,903.53; shoe-shop, $3,699.15; carpenter-shop, $375.13; work done at Female Reformatory, $602.10; labour performed in building operations, $6,700; total, $42,712.75. In this nothing is included for the prison farm and garden, or domestic work.

The conduct of the prisoners on the whole has been very good, and the discipline has been well maintained. There have been, and it may be expected, that there will always be, a few bad and quarrelsome men among so many prisoners, but with a very few exceptions they have behaved very well.

It is satisfactory to record, that while there has been a larger number of prisoners employed in the brick-yard than for some years past, there has not been a single attempt to escape from there on the part of any of them. The work has been energetically carried on, and throughout the season so far, the prisoners have manifested a willingness to further it, which I have not hitherto experienced. The season has not been a specially favourable one for brick-making, and for want of sufficient drying space it was not possible to keep the four machines working steadily, consequently if the output reaches two millions it is as much as may be expected.

It will be observed that but four prisoners escaped, as against six the previous year; one of them has since been recaptured, and is now in custody serving out his term of sentence, another was arrested at Owen Sound, shortly after his escape on a charge of having stolen goods in his possession, and was sentenced to two years in the Penitentiary. On the expiration of his term, he will be brought back here to serve out the unexpired portion of his sentence.

Mention should be made of the trouble occasioned in consequence of so many being sentenced to this prison who are unfit for work. It should not be a difficult matter for a

magistrate to determine whether a prisoner, who is on trial before him, is a fit subject for an industrial prison, where strict discipline has to be observed, and where the "hard labour" part of the sentence is known not to be a "dead letter." When prisoners are unfit for work, from old age, infirmity or epilepsy, or are imbecile or idiotic, they should not be sent to the Central Prison, because there is no distinct accommodation for that class. They are a positive hindrance to the working of the institution, and encumber the officers with a burden of worry and annoyance, and occupy time and attention which is fully required for other and more important duties. A very few of this class of prisoners is sufficient to give no end of trouble, and the practice of sending such here should be discontinued.

The religious services conducted by the Ministerial Association of the city, the teachers of the Sunday School and the Roman Catholic Clergy, are not only highly appreciated by the prisoners, but are productive of good results among them. Especially as the influences exercised upon them during their imprisonment, are in so many cases followed up by the Prisoners Aid Association securing employment for them upon their discharge.

The reading class for instruction in reading, writing, etc., has been well attended, and valued as a great privilege. The teacher has proved his fitness for conducting it, by the success which has attended his efforts, many having made good progress in learning under him. In this connection, I may mention that the books constituting the prison library are nearly all used up, and it is very desirable that a few hundred volumes be added to it. As a means to this end, I would recommend that a small fee be charged for admission to visit the prison, on the understanding that the receipts be appropriated for the maintenance of the library. A fee for admission is collected from visitors in many of the prisons in the States, and at the Kingston Penitentiary, and were it generally known that at certain hours on week days, visitors would be welcomed and admitted by ticket, the number, I believe would be largely increased, and attending on them now, accupies a very considerable portion of the officers' time. When all the works are in operation the prison, the shops and grounds, well repay the time spent in visiting them, and few would grudge the fee, if the object for which it was collected were known.

I will take this opportunity of replying to a question which has been asked in not a few instances: Why do "old jail birds" prefer to have six months or a year longer sentence in order to get to Kingston Penitentiary? The answer may be that there is no remission earned here, nor do the regulations admit of any luxuries being received from outside by the prisoners. Then the several industries are prosecuted with so much diligence that idle, lazy fellows have no opportunity afforded them to play off, and have "a good time," as they term it. The discipline is strict, must necessarily be so, if good order is to be maintained, without which, under the short term of sentence the average of them serve, neither reformative nor financial results could be attained; consequently while the Central Prison is but fulfilling its purpose, it is not, and never was intended to be a haven for idle vagrants, and vicious criminals, in which they could have a good, easy time.

The health of the prisoners throughout the year has been about the same as formerly; nothing of special importance to note in that respect. The Hospital was complety overhauled early in the spring, all the accumulated whitewash scraped and washed off, and the walls and woodwork painted, so that its internal appearance was quite changed, having now a clean, cheerful look.

I desire to acknowledge the assistance rendered to me by the officers and staff generally, specially to the foremen over the building operations, who have exerted themselves to the utmost in prosecuting the work, and under whose supervision and influence all the prisoners so employed were stimulated to put forth their best efforts, not a few working with as much fidelity as if they were in receipt of tradesmen's pay. And also to the guards over the broom-shop and brick-yard, whose efficiency and management is, and has been, most satisfactory.

I have the honour to be, Sir,
Your obedient servant,
JAMES MASSIE, *Warden.*

ANNUAL RETURN OF THE CENTRAL PRISON.

Remaining in custody September 30th, 1883	273	
Committed during the year	723	
Recaptured	1	
Total		997
Discharged on expiration of sentence	622	
" " payment of fine	24	
" by remission of sentence	6	
Retransferred to Common Gaols	1	
Died in prison hospital	3	
Transferred to Lunatic Asylum	2	
Escaped	4	
Total		662
Remaining in custody September 30th, 1884		335

SENTENCED DIRECT TO CENTRAL PRISON OR TO COMMON GAOL.

To Central Prison	374	
To Common Gaol	349	
Total		723

SOCIAL CONDITION.

Married	192	
Single	481	
Widowers	50	
Total		723

EDUCATION.

Read and write	556	
Read only	54	
No education	113	
Total		723

AGES.

Under 18	37	
From 18 to 20	95	
" 20 to 30	278	
" 30 to 40	165	
" 40 to 50	79	
" 50 to 60	52	
" 60 to 70	15	
Over 70	2	
Total		723

NATIONALITIES.

England	130	
Ireland	112	
Scotland	30	
Canada	353	
United States	76	
Other countries	22	
Total		723

RELIGIONS.

Baptist	14	
Church of England	233	
Roman Catholic	289	
Presbyterian	78	
Lutherans	6	
Congregationalists	4	
Methodists	92	
Hebrews	2	
No religion	5	
Total		723

HABITS.

Temperate	85	
Intemperate	638	
Total		723

SENTENCES.

One month and under	81	
Over 1 and up to 2 months	88	
" 2 " 3 "	118	
4 months	61	
5 "	14	
6 "	203	
7 "	6	
8 "	4	
9 "	18	
10 "	5	
12 "	75	
13 "	2	
14 "	1	
15 "	2	
16 "	1	
18 "	13	
20 "	2	
22 "	7	
23 "	13	
2 years	8	
4 "	1	
Total		723

Average duration of sentence..... 6.06 months.

CRIMES.

Assault	29
" indecent	10
" aggravated	3
" with intent to kill	1
" and carrying fire arms	1
" and battery	2
" felonious	6
" malicious	1
" and doing actual bodily harm	6
" and robbery	5
" with intent to rob	1
" and obstructing police	8

Attempt at horse stealing	1
" " larceny	3
Arson	1
Bigamy	3
Bringing stolen property into Canada	3
Burglary	8
" and larceny	1
Carrying unlawful weapons	4
Counterfeiting	1
Car breaking, with intent to commit larceny	7
Drunk	100
" and disorderly	9
" " assault	2
" " malicious injury	1
Deserting Police Force	1
Disorderly	10
Distillation, illicit	1
Embezzlement	7
Exposure of person	2
Escape from custody	2
Felonious wounding	1
Forgery	3
Frequenting disorderly house	4
Felony	7
Fraud	4
False pretences	9
Giving liquor to Indians	1
Gaol breaking	2
" and larceny	2
House breaking	10
" larceny, and carrying fire arms	1
Horse stealing	8
Keeping disorderly house	2
" house of ill-fame	4
Larceny	267
" and false pretences	1
" and receiving	2
" house breaking and receiving	1
" and embezzlement	1
Misdeameanor	5
Manslaughter	1
Malicious injury to property	2
Perjury	2
Receiving stolen property	6
Robbery	10
" highway	2
" from the person	2
Refusing to support family	1
Rioting	7
Shop breaking and larceny	2
Stealing from the person	1
Trespass	9
Unlawful wounding	5
Uttering counterfeit coin	2
Vagrancy	96
Total	723

OCCUPATIONS.

Axemakers	1	Lathers	2
Agents	3	Labourers	340
Barbers	6	Masons	3
Bakers	12	Millers	1
Blacksmiths	6	Moulders	14
" helpers	3	Machinists	5
Butchers	4	Miners	1
Broommakers	4	Millwrights	3
Brushmakers	4	Metal polishers	1
Brassfinishers	1	Music teachers	1
Brakesmen	4	Painters	23
Bricklayers	2	Pedlars	6
Brickmakers	1	Printers	8
Bartenders	2	Polishers	2
Boiler-makers	2	Plumbers	1
Bookbinders	1	Plasterers	4
Carpenters and woodworkers	33	Piano-makers	1
Clerks and bookkeepers	15	Porters	1
Cooks	6	Pump-makers	1
Carders	1	Shoemakers	30
Chemists	1	Sailors	16
Cabinet-makers	3	Salesmen	5
Coopers	3	Storekeepers	1
Cigar-makers	14	Steamfitters	2
Confectioners	1	Stonecutters	1
Carters and teamsters	10	Sawyers	2
Dyers	1	Spinners	1
Engine-drivers and engineers	4	Tailors	34
Firemen	11	Tinsmiths and tinkers	6
Filecutters	3	Travellers, Commercial	2
Farmers	10	Tuckers	1
Gardeners	5	Varnishers	1
Grocers	1	Waiters	7
Grooms and ostlers	4	Weavers	3
Harness-makers	1	Woodturners	3
Hackdrivers	1	Woolsorters	1
Japanners	1	No occupation	3
Knitters	1	Total	723

COUNTIES.

Algoma	9	Kent	19
Brant	8	Lambton	12
Bruce	1	Lanark	3
Carleton	16	Leeds and Grenville	11
Dufferin	2	Lennox and Addington	2
Elgin	35	Lincoln	14
Essex	38	Middlesex	34
Frontenac	19	Norfolk	2
Grey	11	Northumberland and Durham	30
Grenville	1	Ontario	12
Halton	1	Oxford	18
Haldimand	1	Perth	4
Hastings	12	Peterboro'	5

COUNTIES.—*Continued.*

Prince Edward	2	Welland	16
Renfrew	10	Wellington	14
Simcoe	14	Wentworth	65
Stormont, Dundas & Glengarry	8	York	261
Victoria	2	Total	723
Waterloo	11		

INDUSTRIAL DEPARTMENT.

Return shewing the number of days' work rendered for the year commencing October 1st, 1883, and ending September 30th, 1884 :—

Broom shop	24,913	
Tailor "	4,407	
Shoe "	1,920	
South "	14,852	
Brickyard	11,543	
Carpenters	2,414	
Tinsmiths, Engineers and Machinists	1,164	
Blacksmiths and Helpers	593	
Bricklayers and Bricklayers' Labourers making permanent improvements	2,336	
General work in yard and grounds, including the clearing of debris after fire	2,416	
Mercer Reformatory	590	
Farm labourers in garden and on Farm grounds	2,226	
Total		69,374

DOMESTIC DEPARTMENT.

Return shewing the number of Domestics employed from October 1st, 1883, to September 30th, 1884 :—

October	1,096	
November	1,132	
December	1,132	
January	1,221	
February	1,211	
March	1,281	
April	1,151	
May	1,149	
June	1,240	
July	1,216	
August	1,210	
September	1,152	
Total		14,191

Return shewing the number of prisoners in hospital, confined in cells, unemployed, and sick and convalescent, from October 1st, 1883, to September 30th, 1884 :—

Month.	In Hospital.	Confined in Cells.	Unemployed.	Sick and Convalescent.
October	17	31	58	55
November	154	34	76	71
December	113	39	129	81
January	41	48	15	45
February	139	35	204	56
March	167	31	163	35
April	139	38	94	52
May	58	84	331	64
June	133	56	290	67
July	133	97	306	105
August	134	116	384	114
September	132	94	584	89
Total	1360	703	2634	834

CENTRAL PRISON HOSPITAL.

Average number of patients in hospital per day from October 1st, 1883, to September 30th, 1884 :—

October, 1883	.36
November, "	3.40
December, "	3.22
January, 1884	.58
February, "	3.68
March, "	4.61
April, "	3.90
May, "	1.58
June, "	4.34
July, "	3.93
August, "	4.00
September, "	3.50
Daily average for the year	3.09
Prisoners in hospital September 30th September, 1884	3

TABLE

Shewing the number of prisoners per day in the Central Prison for the year commencing October 1st, 1883, and ending 30th September, 1884.

1883 and 1884.	October.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.
1	272	273	292	282	278	277	281	296	305	285	319	310
2	268	272	292	274	277	277	287	299	303	292	320	319
3	267	271	291	272	277	277	286	300	301	291	320	323
4	265	271	290	269	276	278	286	300	203	292	226	328
5	265	275	294	262	281	282	287	298	300	290	324	333
6	260	373	293	262	285	282	287	301	300	290	331	330
7	260	272	289	262	284	282	291	206	299	289	334	330
8	259	272	290	266	283	285	289	304	299	288	330	330
9	252	279	290	267	283	285	290	300	299	294	328	329
10	250	281	288	266	283	284	288	302	305	292	328	339
11	256	281	286	266	282	283	288	302	299	288	323	331
12	255	278	284	265	287	287	285	299	297	300	322	330
13	257	276	288	265	290	284	285	299	296	300	334	322
14	257	275	284	263	288	282	288	293	293	303	332	322
15	256	284	288	260	288	280	287	296	293	300	335	328
16	253	289	288	271	289	280	284	295	292	297	332	328
17	254	286	287	271	289	285	270	295	291	297	232	334
18	254	286	288	271	288	284	289	289	299	296	332	335
19	261	286	287	275	283	283	289	292	303	300	327	332
20	257	290	289	275	281	281	289	287	299	300	327	328
21	257	291	286	275	278	277	288	294	297	298	328	328
22	259	290	286	272	280	278	292	292	297	302	328	328
23	256	288	286	280	277	278	289	290	295	309	324	328
24	262	294	285	277	277	277	294	290	299	304	324	326
25	261	294	285	275	274	274	290	290	299	305	321	332
26	257	297	281	276	273	277	288	293	298	301	318	328
27	253	294	279	276	271	277	288	297	290	301	317	342
28	253	292	281	274	278	276	284	293	287	307	316	342
29	260	289	283	273	270	286	293	293	287	307	316	337
30	259	288	283	277	.....	286	299	305	285	306	311	335
31	258	.....	282	273	.....	283	.....	305	.....	321	311	.....
Total	8013	8487	8895	8392	8160	8707	8631	9195	8910	9245	10070	9887

Total number for the year	106592
Highest number for any one month, August, 1884	10070
" " " " day, September 28, 1884	342
Lowest " " " month, October, 1883	8013
" " " " day, October 10, 1883	250
Average per month	8882.6
" " day	292

General summary of distribution of prisoners in the Central Prison from October 1st, 1883, to September 30th, 1884 :—

Industrial Department	69,374	
Domestic "	14,191	
		83,565
Sick in Hospital	1,360	
" Cells and Convalescent	834	
		2,194
Confined in Cells		703
Unemployed		2,634
Total		89,096

Report of the Surgeon to the Central Prison for Ontario, for the Year Ending September 30th, 1884.

To the Inspector of Prisons, etc., for Ontario:

Sir,—During the past year the general health of the convicts in this institution has been good.

The present mode of supplying the Prison with meat is much more satisfactory than that which previously obtained. Under the old system, complaints on the part of prisoners, guards and the late Warden (Capt. Prince) were numerous and not without reason—as I knew from personal examination, made at the request of the late Warden, on different occasions. But now I scarcely ever hear of guard or prisoner complaining of the quality of the fresh meat.

There is a great deal of trouble and anxiety arising from the mental condition of some of the prisoners. A small percentage is insane upon admission, which a residence of a few days clearly establishes. This undesirable oversight is likely to continue, and does not necessarily involve censure on any one.

Prompt conviction after arrest, without time for observation, will readily account for non-recognition of the mental state of the prisoner. But even in the case of some prisoners, of unsound mind, confined in gaol for a longer or shorter time previous to their trial, with no work to perform, nothing to annoy, and possessing apparently good health, features of insanity may not so clearly manifest themselves as to be recognized by the gaol surgeon; and yet, when the prisoner is received into the Central Prison, and compelled practically to give up his own will, and submit to the will of the Prison authorities, then comes unreasonable friction, much inclination to talk and argue against rule, strong desire to select the quality and amount of labour to be performed by him, obstinacy in refusing to work, noisy abuse of the guard, and then follows the inevitable report of the guard to the Warden, and the punishment awarded by the latter.

Discipline, in the eyes of the other prisoners, must be maintained, otherwise there would soon be revolt.

Now ensues a profession of penitence, amendment and a desire to go to work again, or a sullen endurance of the sentence.

Well, the convict is again sent to his work, soon to show his want of self-government and lack of effort in harmonizing his daily life with his hated and unchangeable environments, by running his head, as before, against unyielding prison discipline. Punishment may improve him, oftener it does not, for the man is, if not insane, certainly pre-insane.

The sane prisoner dislikes, in the dark or in the light, in health or in sickness, confinement in his cell, while the other men are out at work. Indeed, a prisoner will often endure a good deal of suffering, and attempt to go on with his work, rather than give up, and go alone to a comfortable cell.

A prisoner in health is greatly averse to having his rations cut down, and even in the Central Prison prefers the silent praise of never being reported against, to the digrace of "report" and punishment.

Shamming sickness is often enacted to avoid work, or secure lighter labour, but not at the cost of loneliness in the cell. Indeed, one of the punishments now adopted by the Warden is to sentence the prisoner to remain in his cell. The cells are eight feet long, five feet wide, about seven feet high, dry, well-lighted and comfortably warm.

When, therefore, a convict, who is apparently well, with good pulse, clean tongue, normal temperature, good appetite and digestion, deliberately refuses to do work which he is well qualified to perform, without danger or degradation to himself, or violates prison law, being fully conscious of the impossibility of avoiding prompt punishment, and without the hope of securing any compensatory benefit, is punished and again and again repeats the offence, it is, in my judgment, proper to regard such a man as previously stated, if not insane, undoubtedly pre-insane.

It is usual for people, not accustomed to observe closely human frailties and their causes, to speak of the pre-insane as "cranks," "not level," "not all there," "unmitigated scoundrels, requiring only sufficient punishment to break up their rascality and drive the

devil out of them." But it is not true that punishment of the pre-insane will cure them; instead of that it is calculated to push them over the border land into unquestioned insanity.

There are always several of these on hand, admitted into the Prison, rarely made on the premises: some have been repeatedly in the Prison. One or two of these in a gang will arrest the attention and disturb the work of the others, causing great trouble to the guard. In my opinion, these cases should be gathered into a company by themselves, and placed under a guard, who is observing, judicious, self-possessed and good natured. In this corps the discipline could be elastic; it would not be looked upon with great respect by the other prisoners, and there would be a desire so to act as to avoid being drafted into it.

This arrangement might add somewhat to the expense of the Prison, on account of the extra guard, but there might be no additional cost, as much more work would be done by the men than is now obtainable from them. The plan would be humane. The punishment of simple confinement in the cells would be largely avoided, and the health of the class would be better. Whatever lowers the health in these pre-insane tends to fully developed insanity.

Prison life in the sane does not of itself injure the health, as the prisoners usually improve in colour, flesh and firmness of muscle.

We greatly need an apartment, not within hospital or corridor, containing proper punishment dark cells; cells for the noisy and the very filthy, so to avoid disturbing the sleep, or risking the health of other prisoners.

Owing to our Asylums being full, it is sometimes impossible to transfer our insane to these institutions.

It is highly desirable that the insane should be easily removed to the Asylum, but that appears impossible without additional accommodation. The Hospital is well located for fresh air and isolation, but needlessly distant from the main building. As it is outside the brick wall there is in it great temptation to escape. This could be remedied by placing the brick wall further west, so as to throw the Hospital into the square, thus securing greater safety of the convicts and avoiding inconvenience, such as at present exists. The sick could then all be seen and examined in the Hospital, where all would be quiet and needed articles at hand. Objections were made by the late and present wardens, and no doubt very properly, to the reported sick going in numbers as externs for treatment to the Hospital for fear of escapes. At present some of them are seen in the dining-hall, some in the broom-shop and some in the Hospital.

Owing to the crowded state of the Prison, scores of cells have two convicts in each. On moral grounds this is most undesirable; the practice of Sodom's sins did not die with the fiery destruction of that ancient city.

The kitchen is very unsuitable—deep in the ground, without any cross currents, very hot, often full of vapour and unhealthy, particularly in the summer.

The heating of the Hospital is by stoves and the corridors by steam.

From the ceiling of every cell leads a circular channel upwards combining with others, and finally emerging in the open air above the ridge of the building. This arrangement was intended for ventilation upwards, but does not accomplish all that was expected of it, since air will not pass out of a building without provision for other air to pass in. The air in the corridors, especially in the upper part, is often very foul during the night.

The simplest and cheapest way of dealing with this, during the winter months, is to furnish each prisoner with an extra pair of blankets or more, and a cloth night-cap that will not only cover his head but his entire neck, and then, after the lights are turned off, to open widely the dining-room windows. The amount of steam in the corridors might be very much lowered for six or seven hours, and thus lessen the expenditure for coal. This procedure would greatly freshen, though cool, the air, and the prisoners would run no risk of taking colds. Even if the prisoner was compelled, in self-defence in keeping himself warm, to sleep in his day clothes, he had better do so than to breathe fetid air and run its risks. If this course, which is without danger, were adopted sickness in the Prison would be much lessened; and we would not have anything like the number of cases of congestion and inflammation of the tonsils, throat and bronchial mucous membranes that

now obtain to an unnecessary large extent. The breathing of pure air continuously all night would fortify these and all other organs against attacks when exposed to them by day; would, by purifying the blood, lessen irritability and be productive of more easy self-government.

The air pollution is due to the large number of human beings in a limited space; to the fact that many of the prisoners are averse to soap and water beyond the compulsory amount required by prison discipline, and that the buckets in the cells are often left uncovered.

There were three deaths during the year: one from acute inflammation of the bowels; one from pleuroneumonia, and the third was shot dead while attempting to make his escape.

The following list indicates the applications for treatment made by prisoners at work, and the nature of the diseases, viz.:

DISEASE.	No.	DISEASE.	No.
Abrasions	2	Dyspepsia	113
Abscess	14	Dysuria	12
Acne	3	Epilepsy	12
Ague	36	Epistoxis	5
Aguish	38	Eruptions, cutaneous	43
Asthma	7	Erysipelas	2
Balanitis	7	Feverishness	9
Blisters on feet	3	Gangrene	1
Bronchitis	8	Goitre	1
Burns and scalds	2	Gonorrhœa	16
Carbuncles	5	Hœmoptysis	1
Catarrh, nasal	15	Headache	120
Complaining	29	Heart Disease	4
Conjuctivitis	37	Hernia	14
Constipation	803	Inflammation of arm	1
Contusions and wounds	67	" bowels	1
Cornea—foreign bodies in	8	" finger	1
Corneitis	3	" knee joint	1
Coughs and colds	750	" wrist	1
Cramps	88	" lymphatic glands	2
Debility	77	Insanity	2
Diarrhœa	86	" temporary	2
Dysentery	14		

List of applications, etc.—*Continued.*

DISEASE.	No.	DISEASE.	No.
Irritability of bladder	1	Sore throat, simple	90
Lumbago	40	Sore throat, syphilitic	7
Nervousness	6	Spermatorrhœa	14
Neuralgia	97	Sprains	15
Orchitis	7	Stricture of urethra	18
Ottorhœa	14	Syphilis, primary	10
Paralysis	1	" secondary	25
Pediculi	10	Toothache	60
Phthisis	1	Teeth, extractions	29
Piles	8	Ulcers	24
Pleurisy	4	Varicocele	1
Phymosis	3	Varicose veins	4
Rheumatism, mild	94	Vomiting	12
Ringworm	10	Whitlow	4
Scabies	16	Worms, tape	3
Sciatica	5		
Sleeplessness	6	Total	3108

Number of patients admitted into hospital during the year, and their diseases :

DISEASE.	No.		DISEASE.	No.	
Abscess	3	Recovered.	*Brought forward*	70	
Ague	1	"	Necrosis	1	Relieved.
Asthma	2	"	Neuralgia	2	Recovered.
Contusion and wounds	13	"	Orchitis	2	"
Coughs and colds	15	"	Ottorhœa	1	"
Cramps	1	"	Peritonitis	2	"
Conjunctivitis	2	"	"	1	Died.
Diarrhœa	8	"	Pneumonia	3	Recovered.
Debility	7	"	Pleurisy, pneumonia and pericardis	1	Died.
Dysentery	2	"	Pleurisy	2	Recovered.
Eczema	1	"	Phymosis	1	"
Erysipelas	3	"	Rheumatism	15	"
Fracture of clavicle	1	"	Sore throat	12	"
" finger	1	"	Stricture, urethea	1	"
Febricula	2	"	Scrofula	1	Improved.
Gangrene	1	"	Sciatica	1	Recovered.
Headache	1	"	Syphilis	1	"
Hydrocele	1	"	Ulcer	1	"
Knee joint inflamed	1	"	Vomiting	1	"
Lumbago	4	"			
Carried forward	70		Total	119	

Average number of patients in hospital per day for each month for the year, viz.:

During October, 1883	0·36
" November, "	3·40
" December, "	3·22
" January, 1884	0·58
" February, "	3·68
" March, "	4·61
" April, "	3·90
" May, "	1·58
" June, "	4·34
" July, "	3·93
" August, "	4·00
" September, "	3·50
Daily average in the hospital for the year	3·09

Number of patients remaining in hospital Sept., 30, 1884..... 3

All of which is respectfully submitted.

I have the honour to be, Sir,

Your obedient servant,

W. T. Aikins, M.D.,

Surgeon to the Central Prison.

Toronto, 10th October, 1884.

Report of the Superintendent of the Sunday School.

R. Christie, Esq.,

Inspector of Prisons and Public Charities, Ontario, Toronto.

Sir,—I have the honour to report that the work carried on in the Sunday-school at the Central Prison, during the year ending on the 30th ultimo, has been most satisfactory.

As far as we are able to see the results of our work, we believe that the influence has been during this year more wide-spread and permanent than ever before.

The attendance of teachers has been regular and large enough to enable us at all times to properly carry on the work of the school, and our staff could easily be increased sufficiently to enable us at any time to take charge of the whole body of the prisoners.

We shall be glad when you are able to allow all prisoners who desire to do so to attend our services.

I have the honour to remain, Sir,

Your obedient servant,

Hamilton Cassels,
Supt. C. P. S. S.

Statement of the Prisoners' Aid Association.

Toronto, Oct. 1st, 1884.

R. Christie, Esq.,

Inspector of Prisons and Public Charities.

Sir,—The officers of the Prisoners' Aid Association submit herewith a statement of their revenue and expenditure during the past year, the object being to show generally the work being done, and particularly the practical expenditure of the Government grant of $1,000 for the benefit of discharged prisoners.

The statement shews the payment of $1,064.35 directly for food, lodging, clothes, tools, furniture, railway fares, etc., and indirectly a further sum of $2,000, which has been raised and applied toward assisting them and establishing them in respectable occupations.

Appended is the report of the schoolmaster of the Central Prison, whose salary is paid by the association, to which we request your attention.

The work-shop and lodging for male discharged prisoners has proved a great success, and has greatly assisted us in getting the men sheltered at night.

We are also pleased to report that we have succeeded in establishing a lodging-house for discharged female prisoners, where they can be taken care of until work is procured. We expect to add to this place work-rooms also.

We have aided and assisted in getting employment during the past year 742 men and women. We need add nothing to this exhibit of the usefulness of the association.

We also append exhibit shewing the character of the assistance given for one month, and an extract of one day's work from the diary of the agent.

We are also pleased to report that our Sunday-school work in the prisons has been maintained during the year with results for which we are most grateful to Almighty God.

All of which is respectfully submitted.

S. H. Blake, President.

Samuel E. Roberts, Secretary.

Disbursements for One Month, February, 1884.

J. J., board, lodging and clothing	$1 46
Hy. P., food	15
G. W., board and lodging	1 00
J. Mc. C., food	15
W. G. F., lodging	25
F. B., clothing	90
E. D., food	15
J. P., clothing	75
J. S., food	15
J. H., food	15
W. W., board and lodging	1 25
T. McD., provisions, clothes and furniture	6 25
W. W., provisions	35
A. C., clothing	60
J. C., clothing	50
T. W., food and clothing	75
Jas. R., provisions and clothing	1 12
T. L., food and clothing	87
G. S., clothing	50
T. McC., provisions and clothing	2 75
A. W., provisions	25
T. J., tools	65
J. J., clothing	1 45
J. J., clothing and lodging	2 50
H. H., clothing	50
J. P., railway fare and food	40
J. W., tools	50
R. W., board and lodging	1 20
Hy. H., tools	75
J. C., provisions	1 00

A. L., food	15
H. N., board and lodging	25
H. I., board and lodging	25
T. P., board and lodging	25
W. L., board and lodging	25
J. B., board and lodging	25
C. W., board and lodging	3 25
C. H., tools	1 10
J. A., tools	3 15
G. O., board, lodging and clothes	2 70
J. S., food	15
J. B., food	15
R. L., food	15
A. H. M., clothes	90
W. S., board and lodging	1 25
W. S., board, lodging and tools	1 80
C. H., board, lodging and tools	2 95
T. H., board, lodging and clothes	1 75
G. F., board, lodging, clothes and tools	2 10
T. C., " " " "	1 95
Hy. R., " " " "	3 10
W. L., " " " "	2 10
E. R., board and lodging	1 50
J. H., food	15
T. C., "	15
M. W., "	15
T. W., "	15
A. D., "	15
J. G., food and tools	90
Mrs. J., lodgings	25
T. L. W., lodgings	25
W. S., tools	2 35
J. C., board, lodging and clothes	1 40
J. K., board and lodging	50
J. McM., clothes	75
H. R., board and lodging	25
J. G., board and lodging	25
J. J., food	15
P. D., food	15
M. A. J., provisions and lodging	1 35
G. P., board and lodging	50
R. O., clothing	1 30
W. P., provisions	35
W. P., board and lodging	75
J. R., " "	36
R. J., " "	50
J. C., " "	36
A. C., " "	35
J. R., clothing	75
Mrs. J., provisions	50
G. W., board and lodging	25
S. A., provisions and lodging	25
A. L., food	15
G. R., "	15
H., food	15
	$76 67

Agent's Diary.

February, 18th, 1884.

J. G. discharged from C. P. on 15th inst. I believe this man is truly converted. I took him to board with Mr. C., S. St., and he has work at M., near market. He called in company of G. H., late of C. P. (another marvellously changed man.) I took them into the broom shop, and it was most encouraging and interesting to hear these two men talking to and advising their late companions in the Central Prison to seek pardon for their sins through the blood of Jesus, and by God's grace to lead a new life.

I went with H. H. (late of C. P.) to see Mr. E. about giving H. H. employment. Mr. G. seems quite disposed to engage him, and wishes me to call again and see his foreman to morrow.

M. A. J., from gaol, wanted work. Told her where to apply for a situation; she returned to say she was engaged and was to go immediately.

Mrs. M. C., from gaol, called to say she was going to stay with a friend till to-morrow, and if I would have a situation for her by that time she would be glad.

G. P., from C. P.; got him work at the C. S., to commence in the morning. Provided for him for the night, and found him a boarding house near his work. This poor fellow was very grateful.

Went to see Mr. McK. about employment for W. L. Mr. McK. wishes W. L. to call again this evening. I gave W. L. a coat and pair of shoes. W. L. is an intelligent, business-like man, and might do well but for the drink; he assures me he will never take it again.

W. P., from C. P., is leaving by evening train for Montreal; gave him supper and a parcel of provisions for the journey.

Prisoners' Aid Association.

Disbursements for twelve months ending September 30th, 1884:

Aid to discharged prisoners, food, lodging, clothes, tools, furniture, railway fares, etc	$1,064 35
Salaries—Agent, Central Prison Schoolmaster, Bible woman, Evangelist	727 27
On building, alterations, insurance, interest	392 95
Books, printing, stationery, advertisements	194 37
House, fuel, water, lighting, etc	96 89
Books—Central Prison night school	13 86
Broom industry	587 59
Tctol	$3,077 28

In addition to the above the Association administer a grant by the Government for cabs to take ministers to the preaching services and lady teachers to the Sunday-school.

Received during the year ending September 30th, 1884:

By Government grant	$1,000 00
" County grants	310 00
" City grant	300 00
" Subscriptions	698 00
" Do special	130 00
" St. Andrew's S.S.	6 49
" Collected at Annual Meeting	16 46
" Repaid on account of loans made to ex-prisoners	344 62
" Brooms sold	311—
	17 45
Total	given to 742 ex-

During the year employment has been found for and assista- prisoners.

Report of Central Prison Schoolmaster.

To the President and Officers of the Prisoners' Aid Association:

Gentlemen,—I have great pleasure in handing in the following Report of the Central Prison Evening School under my charge.

For the better understanding of the same, it may be desirable to remind you of the arrangements under which we work, which are these—attending the school is made a privilege, open to all desirous to learn, without regard to nationality or creed, forfeitable for any misconduct in or out of school. Any prisoner desirous of attending requests permission of the Warden, who grants him the privilege if he considers him a fit subject for the school, and finds no bad reports recorded against him in the Prison books. He is then brought up to class, by the school-room guard, on the first school night of the month when I classify him, and place his name upon the roll, from which I may remark in passing, it is seldom removed, until he leaves the Prison. I am informed by the Warden that this appears to have a beneficial tendency, in many cases, towards the maintenance of the general discipline of the Prison, as persistent efforts are sometimes made to obtain the privilege, even after refusal, and it generally happens, after the first, or maybe second refusal, he feels himself warranted in granting their requests; and my own observation of the men leads me to conclude that there are very few, probably, I may say, not more than half a dozen, who have come up since the establishment of the school in April, 1883, with any other intention than to benefit thereby.

On referring to my Register I find that 194 different men have already attended the school, with a regularity worthy of praise, when it is remembered no compulsion is used, nor extra encouragement of reward held out as an inducement. As an instance in support of this I may state one man went out of the Prison last month, who had only been absent from class eight times during the eighteen months he had attended, six of which absences were accounted for by sickness.

The number of names upon the roll for the twelve months ending September, 1884, were as follows: October, 56; November, 52; December, 48; January, 46; February, 44; March, 43; April, 44; May, 44; June, 42; July, 44; August, 35; September, 42; and I may remark that the absentees from class have been very few.

The following summary for the last month, September, may be taken as a fair specimen of the attendances, in proportion to the names upon the roll, but the numbers, as may be seen above, are larger in the winter months, generally averaging an attendance somewhere between 40 and 50 men. There were 32 old pupils and ten new ones upon the roll of the month, six of whom were discharged from the Prison on the expiration of their terms, and one struck off for breach of the Prison rules, during the month. The number present were: On the 1st, 41; 4th, 38; 8th, 41; 11th, 41; 15th, 39; 18th, 40; 22nd, 38; 24th, 36; 29th, 35, whose names are carried forward as old pupils for the next month.

The men are fairly attentive to the instructions given both in class and the working of the exercises in their cells, and I believe, in most cases, trying their utmost to profit thereby, and under all the circumstances, I consider the school is doing a very satisfactory work.

All of which is respectfully submitted by

Your obedient servant,

J. J. PRITCHARD.

Toronto, Ont., October 1st, 1884.

ANDREW MERCER ONTARIO REFORMATORY FOR FEMALES.

With the exception of one incident, that of the suicide of an inmate on the night of the 14th May last, no unusual occurrence took place in connection with the ordinary routine of the Reformatory during the past official year. That such a condition of matters can be reported in regard to the working of the Reformatory is probably one of the most satisfactory evidences of its success in accomplishing the purpose for which it was established.

The measures of primary importance for the benefit of the inmates are doubtless centered in steady employment and the enforcing of obedience to rules tending to develop regular and correct habits. These and relative matters, together with the equally important question of the attention paid to their health, are so fully and correctly set forth in detail in the reports of the Superintendent and Surgeon, that the affairs of the Reformatory do not demand further notice at my hands in this portion of the report. The many questions brought to my attention at the time of my statutory visits of inspection are referred to in the minutes made by me, copies of which are to be found at a later stage of this report.

The remarks made respecting the success of the Reformatory apply equally well to the Refuge for Girls, where, notwithstanding the admission of 16 new inmates, a larger number than in any previous year, the order and regularity of a home has been maintained.

The two summaries which follow shew the number of inmates of both branches of the institution during the official years 1883 and 1884; and all other details respecting those of the latter year are given in the tables attached to the Superintendent's report:—

REFORMATORY.

	1883	1884
Number of inmates at beginning of year	145	102
" " " since admitted	117	156
Re-captured (escaped during previous year)	1	....
Re-transferred from Lunatic Asylum	....	1
Total number in custody during year	263	259
Discharged on expiration of sentence	151	127
" " payment of fines	4	5
" " authority of Court	1	.....
" " remission of sentence	3	2
Transferred to Refuge for Girls	1	.....
" " Lunatic Asylum	1	3
Died	....	2
	161	139
In custody at close of year	102	120

REFUGE.

Number of inmates at beginning of year	28	36
" " since admitted	12	16
Total number in residence	40	52

Discharged on expiration of term	2	3
" warrant of Lieutenant-Governor	1	1
Apprenticed by order of Inspector	1	4
Ran away	.....	1
	4	9
In residence at close of year	36	43

These statistics speak for themselves, and require no comment or explanation from me.

Statements shewing the cost of maintaining the Reformatory and Refuge and the operations of the industrial department are annexed.

MAINTENANCE EXPENDITURE.

Service.	Total expenditure.	Average daily cost per inmate.
	$ c.	Cents.
Hospital expenses	109 47	0.30
Butcher's meat and fish	2,875 36	5.23
Flour, bread and meal	1,758 90	3.20
Groceries	3,292 74	6.00
Bedding, clothing and shoes	1,859 94	3.40
Fuel	3,111 16	5.66
Gas, oil, candles and matches	649 41	1.18
Laundry, soap, cleaning appliances and water	3,888 33	7.07
Stationery, advertising, printing and postage	571 35	1.04
Library, schools and lectures	444 50	0.81
Furniture and furnishings	510 84	0.93
Stable expenses, forage, etc	205 85	0.37
Repairs, ordinary	278 04	0.50
Grounds and garden	544 91	1.00
Unenumerated	628 83	1.14
Salaries and wages	8,239 93	15.00
Totals	29,029 56	52.83
Preceding year	29,809 55	49.00

Industrial Department.

Sewing Department.

No. of days worked, 5,999.

Total revenue	$1,198 34	
Less cost of material	254 26	
Net revenue		$944 08

Daily earnings per inmate employed, 16 cents.

Laundry Department.

No. of days worked, 4,584.

Total revenue	$3,107 96	
Less cost of material	678 06	
Net revenue		$2,429 90

Daily earnings per inmate employed, 53 cents.

Knitting Department.

No. of days worked, 4,043.

Total revenue	$601 04	
Less cost of material	100 00	
Net revenue		$ 501 04

Daily earnings per inmate employed, 12½ cents.

Making up Clothing for Inmates.

4,376 days at 33½ cents per day	$1,465 96
Clothing for inmates leaving Reformatory and Refuge	160 40
	$5,501 38

The gross and net earnings of the different departments were :—

	Gross.	Net.
Sewing department	$1,198 34	$ 944 08
Laundry "	3,107 96	2,429 90
Knitting "	601 04	501 04
Total gross revenue	$4,907 34	$3,875 02
Making clothes for inmates		1,465 96
Making clothing given to inmates leaving		160 40
Total net revenue		$5,501 38

In the year preceding the one now under report the receipts of the Industrial Department were, gross, $4,206 76, net, $3,215 20, shewing a considerable increase during the year.

MINUTES OF INSPECTION.

In addition to the visits referred to at length in the minutes copied in this section of the report, I frequently went up to the Reformatory to settle on the spot any questions which arose requiring personal attention. As my office, too, is connected with the Reformatory by telephone, information respecting its daily working can be obtained at any time :—

On a visit of inspection to this institution on the 25th March I found that there were 117 inmates distributed and engaged in various employments, as follows :—

Employed making clothing	23	work from which revenue is derived.
" " knitting	5	
" in city and laundry work	23	
" learning to make clothing	1	
" Sewing, knitting and making clothing for the Reformatory	27	
" House and corridor cleaning	12	
" Cooking and baking	7	
" Inmates dining-room	4	
" Reformatory laundry	8	
" In hospital	6	
" Nurse	1	
Total	117	

There is no material change to be noticed in regard to this institution since the date of my last inspection.

The health of the inmates has been good and continues so generally up to this time. Of the cases under treatment in the hospital one patient only appears to be seriously ill with an attack of inflammatory rheumatism.

The discipline of the institution is found to be in a very satisfactory condition, the tendency of the whole management and system being to develop amongst the inmates a proper respect for the authority of the Superintendent and the Deputy, and obedience to their orders.

An examination of the books of record, including the Surgeon's diary, showed them to be kept with scrupulous care and exactness, and due regard to detail in the entries in each case.

The Reformatory is also in its usual condition of good order and cleanliness throughout, and the industrial work in a fairly prosperous state.

The washing of the Central Prison clothes, which was formerly done there by detailing a certain number of prisoners for the work, has for some months past been done by the inmates of the Reformatory with a view to ascertaining if it could not be more satisfactorily performed and with greater economy in labour, as well as better results in preserving the clothes from wear and tear in the process. The result of this experiment has been so successful in both respects, and of course in the interests of both institutions, affording, as it does, suitable employment for a class of inmates who are not available for other work, and also economizing in the handling of the prison clothes, that it has been decided to continue the present arrangement.

To provide the required room and appliances the appropriation of a sum sufficientfor the erection of an addition to the south wing of the building has just been made, and when the work is completed with the necessary laundry fittings, the whole arrangement will no doubt prove to be of considerable importance in point of economy, both as regards labour and the wear and tear of clothing.

Refuge Branch.

There are at present 36 inmates in this branch, who are reported to be generally well behaved, and the majority of them making good progress in their studies and in acquiring a knowledge of domestic work. Their appearance indicates robust health and good spirits, and is strong evidence that their physical condition is well looked after. Their moral conduct and training are equally made a matter of earnest consideration.

On the 18th of September, I made a second inspection of the Reformatory and found that there were 120 adult inmates in custody, together with three infants, two of whom were born in the house. The present population is an increase of 20 as compared with the number in charge on the corresponding date in the previous year.

At the time of my visit the inmates were employed as follows :—

Tailoring	18
Knitting	11
Laundry work (public)	29
Sewing and mending	18
House and corridor cleaning	6
Kitchen	3
Bakery	3
Dining-room	4
House laundry	9

Nursery	4
Hospital nurse	1
Incapable and sick	12
Convalescent	2
Total	120

The number of inmates employed at the several branches of industrial work necessarily changes from time to time as the requirements for the different supplies indicate, and according to the fitness of those who for the time being are available for the work to be done. Experience has shown that for many reasons laundry work is one of the most suitable employments for inmates of the Reformatory, and efforts to increase the amount of work done have been successful, making it at present the chief employment from which revenue is derived, and the increase from this source will be considerable. The development of the laundry operations has necessarily curtailed the manufacturing branches of work, and consequently the returns from them. It is, however, necessary to have employment constantly supplied in the industrial branches referred to as a means of instruction to some of the younger inmates, and also for the purpose of employing a class who cannot otherwise be kept busy.

An examination of the laundry and work done shows that it is being systematically carried on, and that the samples of work completed are in excellent order and in every respect creditable. The industrial manufacturing departments are also found to be in a satisfactory state, and the samples of work done in them in many respects superior. First prizes have been awarded for exhibits of plain and fancy needlework sent to the Industrial Exhibition from the Reformatory for the past two years. The work in producing the samples was done in overtime, and the prizes distributed among the inmates who took a part in getting it up.

The general discipline of the institution has been very well maintained since the date of my last inspection, no important difference in the number of punishments or deprivations recorded is noted, and in view of the increased number of inmates, and the refractory character of some of the later entrants, this condition of the punishment record is encouraging.

The separation and classification of inmates formerly noted has for some time past been kept up without change. It is apparent, however, that an improvement can be made by at once admitting new entrants to the general wards and using the one now reserved for them and the refractory class for the sole occupancy of the latter. This arrangement will therefore be acted upon at once, as it is hoped that the influence on entrants will be to maintain their position by good behaviour and deter them from disobedience, which would result in their being placed in the refractory corridor.

For some time past the health of the inmates has been well preserved, and in the majority of cases it is much improved during the period of their stay. At present there is one person only confined to bed, suffering from chronic inflammation. Although others are reported sick, their ailments are not of a serious nature.

The usual opportunity was given to the inmates to make any complaint or state any grievance which they might have. In no case, however, was any complaint made.

The Reformatory was found to be in a good state of order and neatness, except in the apartments where the refitting and renewing of the baths and closets was in progress. In these cases there was the usual disorder, but to no greater extent than necessary where such work is being done.

Tenders have been accepted by the Public Works department for the erection of the addition to the south wing, and as the work will be pushed rapidly forward, the laundry and drying-room, for which it is intended, will no doubt be ready for occupation before the winter sets in. This accommodation for laundry purposes is a necessity in event of the employment being continued, and will prove to be of no little advantage to the institution, both as a disciplinary agent and a means of increasing the revenue from the labour of the inmates.

An examination of the Bursar and Clerk's books, and also those kept in the Industrial Department, show them to be in proper order, and exhibit a correct record of the affairs of the Reformatory.

REPORT OF THE SUPERINTENDENT.

TORONTO, October 10th, 1884.

R. CHRISTIE, ESQ.,

Inspector of Prisons and Public Charities, Ontario.

SIR,—I beg to submit the fourth annual report of the Andrew Mercer Ontario Reformatory for Females and Refuge for Girls for the year ending September 30th, 1884.

The number of inmates discharged on the expiration of sentence during the past year is 127 as against 151 of the year preceding; this is owing to the fact that prisoners are now sentenced to longer terms.

Of the 127 discharged, 28 were placed in situations by the officers of the Reformatory, 14 were met by their friends, 37 were sent back to friends, of 27 we have lost all trace, 9 were taken in charge by the ladies of the Sunday-school, 3 were provided for by the Prisoners' Aid Association, 2 were sent to the Home for the Aged, 1 to the Magdalen Asylum, 1 to England, 1 to the General Hospital, 1 transferred to the Industrial Refuge, 1 to the Convent of the Good Shepherd, 1 married, and 1 to the Haven.

As in former years, we have continued to keep up a correspondence with discharged inmates, visiting from time to time those within our reach. We are glad to be able to report that a large percentage have remained in their situations and are at present doing well. One girl has been in the same place for two years and a half.

Fifty-six were provided with such clothing as was necessary to make them appear respectable. Those who were here for a long term, whose conduct was good, and who worked well, received a complete outfit.

Religious Services.

We gratefully acknowledge the services rendered by the ministers of the Protestant denominations every Sunday afternoon and on each Tuesday evening. The spiritual wants of the Roman Catholics have also been faithfully attended to.

Under the superintendency of W. H. Howland, Esq., and his co-workers, the Sunday-school has been regularly carried on.

Every morning the inmates are assembled for prayers before going to work. We attribute much of our success to the good influence these religious services has on the minds of the inmates, and also the comparatively few punishments that have been resorted to.

Punishments.

Referring to the inmates' offence book we find that the cases of punishment for the past year number one hundred and thirty-one. Forty-three inmates only were punished, however; sixteen were punished once, eight twice, seven three times, two four times, four five times, two seven times, three eight times, one twelve times.

This clearly proves that the number of refractory women is small, and that a very large number are never guilty of any breach of the Reformatory rules.

Night School.

It has been found necessary to make a change in the manner of conducting the night-school. Our experience during the past four years has led us to the conclusion that it is utterly useless to compel women over thirty years of age to attend school. With few exceptions they are unwilling to be taught. Thus, after a trial of four years we have been obliged to discontinue the night-school, and to substitute in its stead daily classes for the younger inmates. We purpose, however, holding reading and writing classes during four evenings in the week for all those older women who wish to attend.

Library.

From the number of books which are distributed every week we may judge that the women fully appreciate this provision made for their instruction and amusement.

Escapes.

No escape has occurred during the year.

Nursery and Hospital.

The nursery was closed at the beginning of the year.

Three infants were born in the Reformatory, two were brought in by their mothers, one of these was placed in the Convent at Sunnyside, the other left with its mother, leaving at present three infants in the nursery. The general health of the women has been good. There were but two deaths during the year, one from heart disease, and one committed suicide. The latter event happened on the night of the 14th May.

The circumstances connected with this suicide were as follows:—The inmate in question was locked up in her cell for the night, and at about half-past eight she was spoken to by the night watch, who did not perceive anything unusual in the prisoner's manner. The night watch again visited the cell at half-past ten o'clock, and she then found the prisoner hanging from the door. A doctor was at once telephoned for, but when he came he said she had been dead for some time. An inquest was held, and a verdict returned that the prisoner came to her death by strangulation self-inflicted.

Grading.

Since our last report an attendant has been employed to take charge of the younger inmates, namely—those under eighteen years of age. We find keeping these girls separated from the older women of great advantage.

An hour and a half is devoted each morning to teaching them reading and writing. They are also instructed in different branches of industry, such as shirt and pant making, knitting and hand sewing.

Industries.

We were again successful in obtaining the 1st prize from the Industrial exhibition for "the best collection of work in any public institution." The prize money ($25) was divided among the workers. The following figures will shew the work done in the workshops.

List of articles made:

Shirts	2040	Dresses	300
Pants	2860	Women's underwear	373
Quilts	104	Flannel skirts	244
Quilted skirts	197	Aprons	200
Overalls	186	Col. aprons	340
Boys' suits	3	Underwaists	222
Stockings	918	Jackets	22
Socks	1462	Infants' clothing	50
Mitts	170		

Inmates have been employed as far as practicable in the industries best suited to their capacity. There are always a number who through want of physical strength are wholly unfitted for heavy work. Nevertheless a greater number have been employed this year in the public laundry.

Incapables.

During the year six inmates have been received who are incapable of work of any kind, two of these are subject to severe epileptic fits, one is partially blind, one has a broken wrist, and two are infirm. These women do not add to the revenue of the Reformatory, and they require a great deal of care and watching, especially those subject to epileptic fits.

Improvements.

The laundry work has increased so much that it has been found necessary to build another drying room and laundry, which we hope to occupy in a couple of months.

The old water closets have been removed, they have been replaced by new ones of an improved kind.

Change in Staff.

Two attendants resigned, and once was dismissed. Three attendants were appointed to replace them. One was engaged to take charge of the girls under eighteen years of age. At present all are working satisfactorily.

The attendants are always ready to give encouragement and assistance to those who are anxious to redeem their characters. In many instances thay visit them when in situations and endeavour to strengthen and sustain them in their good resolutions.

INDUSTRIAL REFUGE.

As early as 1847, Dr. Channing, at a lecture delivered in Boston, said : "Society has hitherto employed its energy chiefly to punish crime ; it is infinitely more important to prevent it." This idea appears to be slowly gaining ground in Ontario. We now have a population of forty-three children, sixteen have been received and nine discharged ; out of the nine four were apprenticed, two discharged on the expiration of sentence and situations provided for them, two were claimed by friends, and one, a girl under fourteen years of age who had been sentenced to the Reformatory for a term of six months, at the expiration of that time was, at her own request, allowed to enter the Refuge. After a short time, disliking the restraint, she left.

We are happy to be able to report that of those apprenticed all are doing well.

Great progress has been made in the classes. The giving of small prizes at Christmas and midsummer is a great incentive to further exertions.

We are well pleased to see the girls improve so much in knitting and hand sewing. All the clothes worn at the Refuge are made by the girls. The following is a list of articles made :—

Dresses	85	Aprons	50
Skirts	74	Unenumerated articles	335
Drawers	28	Stockings knit	68
Chemises	19	Stockings footed	60
Night dresses	14		

The girls obtained first and second prizes for knitting and hand sewing from the Industrial Exhibition.

The training here is more domestic than educational. Since June all the cooking for the staff has been done most satisfactorily by two of the girls under instruction.

On the 14th of March two of the girls made their escape, about seven o'clock in the evening. They were in the play-ground, and by placing a plank against the fence they managed to get over. They were returned to us the next morning very much exhausted and very cold, as they had taken no outdoor clothing. They expressed great sorrow for their foolish conduct. Escapes could easily be made from the Refuge, as the doors are never locked except at night.

There has been no case of serious illness among the girls ; their general health is good.

Owing to the steady increase in the Refuge, it will be advisable to have a laundry built to provide employment for the girls, where they could be taught to be good laundresses.

We strongly recommend this, as there is no accommodation for teaching this most necessary branch of domestic work.

The same alterations in the water-closets have been made here as were made at the Reformatory.

A shed is being built in the play-ground, where the girls can take exercise in inclement weather.

As in former years, the children have enjoyed several excursions to High Park. One pic-nic was given by Wm. Gooderham, Esq.; he sent them in vans to the Park, and supplied them with refreshments.

They enjoyed the usual sail in a yacht, at the expense of the Government.

Twenty-one of the older girls were taken to the Industrial Exhibition.

In comparing the punishment book, we notice fewer punishments administered this year than in past years; this proves that the longer the girls are with us the better their conduct becomes.

I have the honour to be, Sir,

Your obedient servant,

M. J. O'REILLY,

Superintendent.

ANNUAL STATISTICAL REPORT OF THE ANDREW MERCER ONTARIO REFORMATORY FOR THE YEAR ENDING SEPTEMBER 30TH, 1884.

Number of inmates, October 1st, 1883	102	
" " since received	156	
Re-transferred from Lunatic Asylum, Hamilton, to complete sentence	1	
Total number of inmates		259
Discharged on expiration of sentence	127	
" on payment of fines	5	
" by remission of sentence	2	
Died	2	
Transferred to Lunatic Asylum	3	
Remaining in custody, September 30th, 1884	120	
		259

Nature of Sentences.

Sentenced direct to Reformatory	96	
" to common gaols	60	
		156

Nationalities.

England	30	
Ireland	34	
Scotland	2	
Canada	68	
United States	18	
Germany	2	
Newfoundland	2	
		156

Religious Denominations.

Episcopalians	55	
Roman Catholics	58	
Presbyterians	4	
Baptists	10	
Methodists	26	
Lutheran	1	
Unknown	2	
		156

Social Condition.

Married	89	
Single	67	
		156

Temperate or Intemperate.

Temperate	44	
Intemperate	112	
		156

Education.

Read and write	69	
Read only	43	
Neither read nor write	44	
		156

Ages.

Under 18	23	
From 18 to 20	8	
" 20 to 30	57	
" 30 to 40	32	
" 40 to 50	24	
" 50 to 60	8	
" 60 to 70	3	
Over 70	1	
		156

Sentences.

For 3 months	1
" 6 "	82
" 9 "	2
" 12 "	41
" 15 "	2
" 16 "	2
" 18 "	4
" 20 "	3
" 22 "	1

For 23 months	13	
" 1 year and 360 days	3	
" " 364 days	1	
" 3 years	1	
		156

Average period..... 10.58 months.

Crimes.

Assault	1	
" drunkenness and prostitution	1	
Causing a disturbance by being drunk	3	
Drunkenness	15	
Drunk and disorderly	2	
Drunkenness and vagrancy	2	
" vagrancy and prostitution	2	
Forgery	1	
Fraud	1	
Frequenting a house of ill-fame	3	
" a disorderly house	8	
Giving liquor to an Indian	1	
Inmate of a house of ill-fame	7	
" " disorderly house	1	
Keeping a house of ill-fame	10	
" a disorderly house	12	
Larceny	29	
Larceny and drunkenness	1	
Obtaining money under false pretences	1	
Prostitution	6	
" and night walking	1	
Receiving stolen goods	1	
Vagrancy	31	
" and drunkenness	3	
" " prostitution	10	
Unlawfully and maliciously wounding	1	
Wandering	2	
		156

Occupations.

Charwomen	2	
Cooks	2	
Dressmaker	1	
Housekeepers	16	
Laundresses	4	
No occupation	16	
Prostitutes	41	
Seamstresses	4	
Second-hand dealer	1	
Servants	65	
Spinner	1	
Tailoress	1	
Washerwoman	1	
Weaver	1	
		156

COUNTIES from which inmates were received.

COUNTIES.	Sentenced direct to Reformatory.	Sentenced to Common Gaols and subsequently removed.	Total.
Carleton	2	13	15
Elgin	4	.....	4
Essex	8	.....	8
Frontenac	5	.....	5
Grey	5	.....	5
Hastings	3	.....	3
Kent	3	4	7
Lambton	.....	1	1
Lanark	1	.....	1
Leeds and Grenville	5	3	8
Lincoln	2	.....	2
Middlesex	2	2	4
Ontario	1	.....	1
Oxford	4	1	5
Peterborough	1	.....	1
Simcoe	2	1	3
Victoria	1	.....	1
Waterloo	1	1	2
Wellington	2	.....	2
Wentworth	24	16	40
York	20	18	38
	96	60	156

NUMBER OF DAYS WORK DONE BY INMATES DURING THE YEAR.

Industrial Department.

Knitting to fill orders	4,043	
Shirt, quilt, overall and pant making	5,999½	
Laundry (City, Canadian Pacific Railway, and Central Prison)	4,594	
		14,636½

Domestic Labour.

Assisting in Library	18	
Corridor cleaning	3,025½	
Cooks	1,438	
Bakery	916	
Dining room	1,457	
Laundry (inmates, officers and attendants)	2,599	
Learning to sew	722	
Learning to knit	284	
Sewing and mending for Reformatory	3,896¼	
" " own clothing	478½	
Nursery (attending infants)	254	
Nurse (hospital and insane inmates)	390	
		15,478¼

DAILY average number of Infants and Children in the Reformatory during the year ending September 30th, 1884.

Day of month.	1883. October.	November.	December.	1884. January.	February.	March.	April.	May.	June.	July.	August.	September.
1	.....	.....	.....	.....	.....	.....	1	.....	1	1	2	3
2	.....	.....	.....	.....	.....	.....	1	.....	1	1	2	3
3	.....	.....	.....	.....	.....	.....	1	.....	1	1	2	3
4	.....	.....	.....	.....	.....	.....	1	.....	1	1	2	3
5	.....	.....	.....	.....	.....	1	1	.....	1	1	2	3
6	1	.....	.....	.....	.....	1	1	.....	1	1	2	3
7	1	.....	.....	.....	.....	1	1	.....	1	1	2	3
8	1	.....	.....	.....	.....	1	1	.....	1	1	2	3
9	1	.....	.....	.....	.....	1	1	.....	1	1	2	3
10	1	.....	.....	.....	.....	1	1	.....	1	1	2	3
11	1	.....	.....	.....	.....	1	1	.....	1	1	2	3
12	1	.....	.....	.....	.....	1	1	.....	1	1	2	3
13	1	.....	.....	.....	.....	1	1	.....	1	1	2	3
14	1	.....	.....	.....	.....	1	1	.....	1	1	2	3
15	1	.....	.....	.....	.....	1	1	.....	1	1	2	3
16	1	.....	.....	.....	.....	1	1	1	1	1	2	3
17	.....	.....	.....	.....	.....	1	1	1	1	1	2	3
18	.....	.....	.....	.....	.....	1	1	1	1	1	2	3
19	.....	.....	.....	.....	.....	1	1	1	1	1	2	3
20	.....	.....	.....	.....	.....	1	1	1	1	1	2	3
21	.....	.....	.....	.....	.....	1	1	1	1	1	2	3
22	.....	.....	.....	.....	.....	1	1	1	1	1	2	3
23	.....	.....	.....	.....	.....	1	.....	1	1	1	2	3
24	.....	.....	.....	.....	.....	1	.....	1	1	1	2	3
25	.....	.....	.....	.....	.....	1	.....	1	1	1	2	3
26	.....	.....	.....	.....	.....	1	.....	1	1	1	3	3
27	.....	.....	.....	.....	.....	1	.....	1	1	1	3	3
28	.....	.....	.....	.....	.....	1	.....	1	1	1	3	3
29	.....	.....	.....	.....	.....	1	.....	1	1	1	3	3
30	.....	.....	.....	.....	.....	1	.....	1	1	2	3	3
31	.....	.....	.....	.....	.....	1	.....	1	.....	2	3	.....
	11					27	22	16	30	33	68	90

Total.....297. Average per day..... $\frac{297}{365}$

" " month..... $24\frac{3}{4}$

DAILY average population of the Reformatory during the year ending Sept. 30th, 1884.

Day of month.	1883. October.	November.	December.	1884. January.	February.	March.	April.	May.	June.	July.	August.	September.
1	102	105	112	112	115	115	114	107	106	110	118	118
2	102	104	110	112	115	115	117	111	106	110	118	118
3	100	106	110	111	115	115	117	110	106	108	117	116
4	101	105	112	111	115	115	117	109	106	106	117	118
5	99	105	112	111	115	118	118	109	105	106	116	118
6	102	110	112	109	115	118	118	109	107	106	116	118
7	102	111	110	109	115	118	118	108	106	106	116	118
8	102	111	110	108	115	119	117	108	105	105	116	120
9	102	111	108	108	114	118	117	106	105	105	116	120
10	99	114	109	109	113	118	116	106	105	104	116	120
11	99	114	111	110	113	118	117	106	104	109	115	120
12	99	114	111	110	113	118	117	106	107	109	115	120
13	98	114	110	110	113	117	116	106	107	109	118	120
14	98	114	110	112	113	122	116	105	105	111	118	120
15	98	114	110	112	113	122	115	104	105	109	117	120
16	98	113	110	112	113	120	114	108	105	111	117	120
17	98	113	110	112	113	120	114	109	105	111	117	120
18	98	112	109	112	113	120	116	109	105	111	119	120
19	99	112	109	115	113	120	113	109	105	111	119	119
20	99	112	109	115	111	119	113	109	105	111	119	119
21	99	112	109	115	111	118	113	107	105	111	119	119
22	99	112	109	116	111	118	110	107	105	111	118	119
23	97	112	108	116	117	117	108	107	105	112	119	120
24	97	113	108	116	117	118	107	107	104	112	119	119
25	97	113	107	116	119	117	108	107	106	118	119	121
26	99	113	108	116	119	116	108	107	106	118	118	120
27	101	113	108	115	119	116	107	107	105	118	118	121
28	101	113	110	115	117	115	111	107	110	118	118	121
29	101	114	110	115	116	115	109	108	110	119	118	121
30	100	112	110	115	.....	114	108	108	110	119	118	120
31	105	.....	112	115	.....	114	.....	108	.....	119	118	.....
	3091	3341	3403	3490	3321	3643	3409	3334	3176	3443	3642	3583

Total.....40,876. Average per day..... $111\frac{361}{365}$

" " month..... $3,406\frac{1}{3}$

Lowest number..... 97

Highest " 122

REFUGE FOR GIRS.

Annual Statistical Report.

Number of inmates, October 1st, 1883	36
" " since received	16
	—52
Since discharged by expiration of sentence	3
" " Lieutenant-Governor's warrant	1
Apprenticed by order of Inspector (under provisions of the Act)	4
Left the Refuge, July 2nd	1
Remaining in custody, September 30th, 1884	43
	—52

Nature of Sentence.

Direct to Refuge	15
Came by her own desire and by permission of Inspector	1
	—16

Nationalties.

Canada	14
England	2
	—16

Religious Denominations.

Episcopalians	11
Roman Catholic	2
Methodist	2
Baptist	1
	—16

Education.

Read and write	2
Read	2
Neither read nor write	12
	—16

Ages.

Six years	1
Seven years	1
Eight years	2
Nine years	1
Ten years	1
Twelve years	1
Thirteen years	5
Fourteen years	4
	—16

Offences.

Vagrancy	11
Larceny	1
Incorrigibility	4
	—16

Sentences.

Six months	1
Twenty-three months	1

Two years	2
Five years	3
Indefinite	9
	—16

Counties.

Brant	2
Frontenac	2
Grey	2
Lambton	2
Lincoln	1
Lennox and Addington	1
Simcoe	1
Wentworth	1
York	2
Ontario	1
Welland	1
	—16

NUMBER OF DAYS.

	October.	November.	December.	January, 1884.	February.	March.	April.	May.	June.	July.	August.	September.
1	36	36	36	34	36	36	36	37	37	39	40	45
2	36	36	36	34	36	36	36	37	37	38	40	45
3	36	36	36	34	36	36	36	37	37	38	40	45
4	37	36	36	34	36	36	36	37	38	38	40	45
5	37	36	36	34	36	36	36	37	38	38	40	45
6	37	36	36	33	36	36	36	37	38	38	40	45
7	37	36	36	33	36	36	36	37	38	38	40	45
8	37	36	36	33	36	36	36	37	38	38	40	45
9	37	36	36	33	36	36	36	37	38	38	40	45
10	37	36	36	33	36	36	36	37	38	38	40	45
11	37	36	36	33	36	36	36	37	38	38	40	45
12	37	36	35	33	36	36	36	37	38	38	42	45
13	37	36	35	33	36	36	36	37	38	38	43	45
14	37	36	35	33	36	36	36	37	38	38	43	45
15	37	36	35	33	86	36	36	37	38	39	45	45
16	37	36	35	33	36	36	36	37	38	39	46	45
17	37	36	35	33	36	36	36	37	38	39	46	45
18	37	36	35	33	36	36	36	37	38	39	46	45
19	37	36	34	35	36	36	36	37	38	39	45	45
20	37	36	34	35	36	36	36	37	38	39	45	45
21	37	36	34	35	36	36	36	37	38	39	45	46
22	37	36	34	35	36	36	36	37	38	39	45	46
23	37	36	34	35	36	36	36	37	38	40	45	47
24	37	36	34	35	36	36	36	37	38	40	45	46
25	37	36	34	35	36	36	36	37	39	40	45	46
26	37	36	34	36	36	36	36	37	39	40	45	46
27	37	36	34	36	36	36	36	37	39	40	45	44
28	37	36	34	36	36	36	36	37	39	40	45	44
29	37	36	34	36	36	36	36	37	39	40	45	43
30	37	36	34	36	.....	36	37	37	39	40	45	43
31	36	.....	34	36	.....	36	.....	37	.....	40	45	.....
To'al	1141	1080	1083	1060	1008	1116	1081	1147	1161	1205	1339	1351

Total days' stay, 13772. Average daily population .....$37\frac{2}{3}\frac{6}{8}\frac{7}{8}$
Highest population, 46.
Lowest " 33.

REPORT OF THE SURGEON.

ROBT. CHRISTIE, ESQ., TORONTO, 1st October, 1884.

Inspector of Prisons and Public Charities:

SIR,—I have the honour of herewith submitting to you my Annual Report as Surgeon of the Andrew Mercer Ontario Reformatory for Females, and Industrial Refuge for Girls, for the year ending September 30th, 1884.

REFORMATORY.

I am pleased to be able to report that considering the number of inmates, the sources from which they come, and other circumstances, the health generally has been good, and will favourably compare with other institutions.

There were but two deaths during the year, viz.: M. A. M., who deliberately committed suicide on the night of May 14th, 1884, by strangulation in her cell; and M. F., who died suddenly from heart disease on the night of May 31st, 1884, in her cell. In both instances an inquest was held by Coroner Duncan.

A third inmate, M. T., a consumptive, who had for some considerable time been an inmate of the Reformatory Hospital, was, after the forwarding of a certificate of her physical condition to the Minister of Justice, released by that official.

Notwithstanding there are several inmates more or less insane in the institution, they are usually manageable, although at times some of them require the especial attention of an attendant, or locking up, to prevent injury or general disturbance. During the past year, however, three have required removal to Asylums for the insane. Two who had been insane before their admission became worse as time passed, and were removed on the 4th of October, 1884; while a third case rapidly developed without any previously observed symptoms into first a religious mania and shortly after into a violent form of insanity, and was removed on the 3rd July, 1884. The conveniences and surroundings of a mental and moral character are ill adapted for treating insane cases, and it is to be regretted that not a year passes but several insane cases are sent to the Reformatory.

Again, the institution is forced into becoming a sort of refuge for old and debilitated cases, whose whole life has been a variation between an outside debauch and a prison recuperation. This class forms the greater portion of those requiring medical and hospital treatment, and are neither productive to the institution, nor qualified to inaugurate a better career in life when sentence expires.

To the foregoing may be added pregnant women and mothers with their children. Such arrivals lead to hospital and nursery provisions being required sometime during the period of sentence, and to an increased expense over the ordinary inmate, with less production of service to the Reformatory.

It is a fact that a very large proportion of the inmates have been professional prostitutes or chronic drunkards, and in many cases both, and hence I have a large amount of constitutional and chronic disease to treat. Added to this there is an increased amount of sickness due to the proneness of the sex to many special ailments.

Constitutional disease has since the opening of the Reformatory been a prevailing class of ailment, and necessitated the establishment of a specific (or Syphilitic) ward, where the inmates, though under treatment, could at the same time have their labour utilized. Isolation to prevent the spread of Syphilis to other inmates has been constantly maintained. During the past year no less than twenty-four cases of Syphilis have occupied the specific ward. Of these eleven cases were in the secondary stage, twelve in the tertiary stage, and one (a pitiable sight) was inherited Syphilis. Of the twenty-four inmates, nine were in at the beginning of the statistical year, and fifteen were admitted during the year. At the close of the year only three remained. A portion of the others were discharged cured, while the remainder left owing to expiration of term of sentence. One inmate went direct to the City Hospital from the Reformatory. This class of cases are not rated as hospital cases, owing to their ability to work to some extent, whereas inmates of the Reformatory Hospital are severely sick, or injured, or incapacitated from all work while there. The daily average number of inmates in the Syphilitic ward and under treatment was 7.77.

During the year thirty-eight inmates spent some portion of their term of sentence in the Reformatory Hospital. Of these fifteen spent from one to ten days' time aspatients; seven spent from eleven to twenty days; five spent from twenty-one to thirty days. Of the remaining eleven cases the days spent by each severally, with the disease for which treated, were:—

33	days	Psoas abscess.
33	"	Acute rheumatism.
36	"	Persistent masturbation.
41	"	Acute rheumatism and bronchitis.
41	"	Disorders of pregnancy and child birth.
53	"	Insanity and general debility.
61	"	Chronic phthisis.
66	"	Acute rheumatism and heart disease.
81	"	Varicose ulcers of leg.
86	"	Chronic phthisis.
95	"	Epilepsy.

The daily average of inmates in hospital was 2.57.

The daily average of cases presenting for treatment during the year was 7.91, excluding inmates of the hospital and syphilitic wards; while the daily average of those presenting who were so sick as to be incapacitated for work was ·90.

As might be anticipated, not a few reported themselves, under the pretence of being sick, with a view to escaping some particular work, when nothing ailed them, or at the most something very frivolous was the matter. In this class there were 78 presentations.

By the following figures it will be seen that the daily average number of inmates treated during the year, was as follows, viz.:—

In Hospital	2.57	
In Syphilitic Ward	7.77	
Casuals	7.91	
Total		18.25

While the daily average of those sick and incapacitated for work was as follows, viz.:

In Hospital	2.57	
Temporary sick	.90	
Total		3.47

The large number of cases of biliousness, indigestion and constipation, is doubtless due to the change from a rough active out and indoor life, to one of restraint and indoor life. This is in part remedied by affording outdoor recreation in the yards during a portion of each day.

The old and debilitated inmates are, when it is necessary, supplied with woollen guernseys.

In the hospital the diet varies from the ordinary course in the dining hall of the Reformatory. Those who are ill receive according to their ailment or physical state what is the best adapted to their condition, and in quantities proportionate.

Very few complaints have been or could be made by inmates regarding the diet. I have at unexpected intervals visited the dining-hall and have partaken of the dinner furnished inmates and invariably found it ample and sometimes more than ample in quantity and good in quality. From the various memorandums of inspection, I quote the following, which may be accepted as a fair criterion of the daily dinner, and no complaint has been made of any other meal.

" 24th October, 1883.—Partook of inmates' dinner, which included soup, bread, beef and carrots, which were of good quality."

"22nd January, 1884.—Partook to-day of soup, bread and meat, of inmates' dinner, and find them good."

"12th March, 1884.—I partook of inmates' dinner to-day and consider it excellent. Bread, soup, meat and potatoes all good."

"15th July, 1884.—Had a lunch from inmates' dinner to-day and found good corn-beef, potatoes and bread."

"11th September, 1884.—I visited the dining-room to-day and found each inmate supplied with about a half a pound of boiled beef, one large bowl of soup, a thick slice of bread, and corn. I am informed by the Superintendent that this is the first time the inmates have had corn this season."

When complaint has been made at any long intervals, it has not been on account of insufficiency, but rather because the food itself, or the mode of its preparation, did not meet the approval of the complainer. In March last I was asked by the Superintendent to see a carcass of mutton in the cooler, against which complaint had been made, and I reported that in my judgment it was diseased, for the appearance and smell were both favourable to that view, and I had no hesitation in condemning it. I report this case as it was, I believe, the only existing just ground for complaint during the year, and this was removed so soon as made known.

The Lying-in-Chamber had but three occupants during the year.

Following is the record of births, viz.:—

March 4th, 1884	Male child born,	delicate.
July 30th, 1884	Female "	small but healthy.
Aug. 26th, 1884	Male "	large and healthy.

Besides the three births, two children were admitted, the one an infant, was immediately separated from its mother and the latter at once consigned to the specific ward for the treatment of syphilis, with which she was afflicted. The other was a little girl of two years of age, who was suffering with whooping-cough. Of the five inmates of the nursery during the year two have left the institution and three remain; none have died. Mothers remain in the Hospital Lying-in-Ward for two weeks, after which the infants are transferred to the nursery.

As in former years I have still adopted the precaution of vaccinating each inmate not already vaccinated, or not bearing evidence of having had smallpox. The number of inmates vaccinated during the year was fourteen.

Every sanitary precaution thought of has been adopted, the bedding and cells have at various times been examined and have been found with scarcely an exception clean, dry, light, and well ventilated and well supplied.

I am pleased to report that the recent changes in the water closets and baths is, in a sanitary point of view, a great improvement on the past, and which with the good ventilation and graded temperature obtained by a judicious distribution of thermometers throughout the corridors and work-rooms, has placed this institution in about as safe a sanitary condition as it is possible to secure.

The health of officials and attendants has during the year been better than in previous years.

I regret the fact that hitherto when the Chief Guard (who is solely entrusted with the care of medicines, their administration, and responsible for carrying out professional directions both in the hospital and throughout the different wards, as well as the Industrial Refuge for Girls) has become fairly well acquainted with these peculiar duties, a change takes place, and the work of instruction and training begins *de novo*. It is very important, indeed it might be the saving of life, to have at least one competent attendant ready to act in any emergency.

The different points to be visited, the hospital, the syphilitic ward, the nursery, the casual sick in cells in different corridors, and the girls in the Refuge, require considerable time at my hands, to say nothing of the preparation and dispensing of medicines.

An intelligent, careful and trained attendant is indispensable, and with frequent change, there can never be the same degree of efficiency.

In this connection I may say that the present Chief Guard is becoming proficient in the discharge of these peculiar duties.

PRESENTATIONS for treatment during the year, excluding hospital cases.

DISEASE.	No.	DISEASE.	No.
Abrasions	47	Diarrhœa	66
Abscess	15	Dysentery	3
Acne	1	Dysmenorrhœa	76
Amenorrhœa	17	Dyspepsia	4
Anæmia	2	Dysuria	1
Aphonia	1	Earache	26
Asthma	2	Eczema	8
Ague	4	Endometritis	10
Bilious	229	Enteritis	1
Boils	7	Epilepsy	17
Bronchitis	8	Erysipelas	2
Burns	16	Erythema	3
Cancer	2	Febriculœ	18
Catarrh	1	Fractures, finger	3
Cephalalgia	100	Gastralgia	27
Chancroids	5	Goitre	1
Chemosis	3	Gonorrhœa	1
Colds, simple	182	Glossitis	1
Colds, severe	22	Heart Disease	1
Congestion, kidneys	21	Hæmoptysi	5
do ovaries	3	Hemorrhoids	8
do uterus	3	Hoarseness	9
Conjunctivitis	15	Housemaid's Knee	2
Constipation	263	Hysteria	16
Contusions and wounds	32	Incontinence of Urine	2
Convulsions	7	Indigestion	112
Corneitis	8	Inflammation, head or face	24
Coryza	2	do upper extremities	15
Cramps	35	do lower extremities	8
Croup	2	do bursæ	1
Cough	57	do glands	5

PRESENTATIONS for treatment during the year, excluding hospital cases.

DISEASE.	No.	DISEASE.	No.
Influenza	4	Pregnancy, disorders of	2
Ingrowing toenails	1	Progressive Muscular Atrophy	1
Insanity	9	Pruritis	4
Insomnia	4	Psoriasis	11
Iritis	1	Retention of Urine	2
Irritable bladder	11	Rheumatism, acute	4
Laryngitis	1	do sub-acute and chronic	113
Leucorrhœa	23	do gonorrhœal	2
Lumbago	11	Ringworm	2
Malingerers and frivolous	78	Roseola	1
Masturbation	9	Scabies	1
Meno-pause	2	Scrofula	6
Menorrhagia	24	Septicæmia	2
Metritis	39	Sorethroat, simple	64
Metrorrhagia	2	Sprains	12
Nausea	17	Suppression Urine	2
Neuralgia	60	Syphilis, secondary	35
Œdema	1	do tertiary	29
Operations (minor) for removal of small tumors and growths, external and internal; dilitation of osuteri; removal of metal points, needles, etc	19	do hereditary	3
		Teeth extracted	29
		Toothache	44
Ophthalmia	4	Tonsillitis	15
Otitis	9	Ulcers	27
Ovaritis	3	Uterus, ulceration	27
Pains, alleged and simple, in various parts of the body	215	do displacements	2
Paralysis	2	Vaccinated	14
Pediculœ	10	Varicose Veins,	2
Pharyngitis	3	Vaginitis	1
Phlebitis	3	Vertigo	9
Phthisis, acute	1	Weakness from debauch and sickness	101
do chronic	5	Worms	18
Pleurisy	1		

Monthly record of cases other than hospital cases.

MONTHS.	Casuals or Ordinary Cases Presenting.				Dark Cell.	Syphilitic Ward.	
	Total cases seen.	Daily average of cases.	Total cases sick.	Daily average sick.	Visits to inmates.	Total inmates.	Daily average.
October, 1883	194	6·25	27	·87	13	13	11·12
November, "	230	7·66	28	·93	3	12	11·93
December, "	245	7·90	37	1·19	3	13	11·90
January, 1884	268	8·64	39	1·25	2	10	9·16
February, "	257	8·86	23	·79	2	12	6·65
March, "	290	9·35	28	·90	1	9	9·00
April, "	223	7·43	28	·93	....	10	8·03
May, "	271	8·74	31	1·00	.....	7	6·58
June, "	194	6·46	19	·63	4	6	6·00
July. "	261	8·41	20	·66	....	8	6·25
August, "	239	7·70	39	1·25	3	8	4·90
September, "	226	7·53	25	·83	.....	3	1·80

Cases treated in the Reformatory Hospital.

Disease.	No.	Disease.	No.
Abcess	2	Hæmoptysis	2
Ague	1	Housemaids' Knee	1
Asthma	1	Insanity.	2
Burn	1	Inflammation, gland	1
Bronchitis	2	do face	1
Caries	1	Masturbation	1
Childbirth	3	Metritis	2
Conjunctivitis	1	Neuralgia	4
Congestion of lungs.	1	Operation, tenatomy	1
Cough, severe	1	Otitis	2
Contusion and wound	2	Phthisis, chronic	2
Convulsions, hysterical	1	Rheumatism, acute	5
Corneitis	1	do chronic	4
Debility and weakness	4	Severe cold	2
Diarrhœa, chronic	2	Severe biliousness	1
Dysentery, acute	1	Sprained ankle	1
Epilepsy	1	Spinal irritation	1
Erysipelas	2	Ulcers	2
Hysteria	1	Ulcerated sore throat	1
Heart Disease	1	Vomiting	1

Monthly Record of hospital cases.

MONTHS.	Total inmates.	Total days.	Average inmates per day.	MONTHS.	Total inmates.	Total days.	Average inmates per day.
October, 1883	3	67	2.16	April, 1884	5	68	2.19
November, "	5	65	2.16	May, "	9	89	2.87
December, "	4	28	.90	June, "	7	90	3.00
January, 1884	11	109	3.51	July, "	6	96	3.09
February, "	7	60	2.06	August, "	6	119	3.83
March, "	5	80	2.58	September, "	5	75	2 50

Industrial Refuge for Girls.

I am pleased to be able to report that the health of the girls of the Industrial Refuge has been excellent. This institution has been singularly free from all epidemics. There has not been a single accident of any importance, not a case of serious illness during the whole year, nor a death since its opening four years ago.

From the tabulated statement which follows, it will be seen that the ailments have all been of a mild type.

It was at one time feared that the practice of the solitary vice would prove a formidable evil in the Refuge, but candour and plain speaking, with a setting forth of the evil consequences that must follow its practice, has had a good effect, and I have the best of reasons for believing that the wisdom of the course adopted to check it has been satisfactorily proven.

The harmonizing of labour, refreshment, instruction, recreation and sleep, in their proper proportions has made the children, with very few exceptions, the pictures of health and contentment.

The same precautions have been adopted here as in the Reformatory in all matters pertaining to the sanitary condition of the building, etc. The place throughout is kept scrupulously clean.

Following are the diseases or ailments treated during the year, with the number of girls afflicted with each.

Disease.	No.	Disease.	No.
Abscess	2	Inflammation (Gland)	2
Abrasious	1	Inflammation (Hand)	1
Acne	1	Leucorrhœa	1
Bilious	2	Masturbation	7
Cold (Simple	9	Poison (from the Ivy plant)	1
Cold (Severe)	1	Sore throat	9
Constipation	2	Teeth extracting	5
Cough	6	Toothache	7
Cramps	1	Vaccinated	4
Erythema	1	Wounds	2
Indigestion	1	Worms	1

I have the honour to be, Sir,

Your obedient servant,

John S. King, M.D.,

Surgeon.

REPORT ON THE SUNDAY SCHOOL OF THE ANDREW MERCER REFORMATORY.

The school has been continued regularly during the year, the good results being even more apparent than in former years.

Both teachers and pupils (adults and children) have been regular and punctual in attendance, and with but few exceptions have given earnest and deep attention to lessons and addresses from the desk.

The staff of teachers, including superintendents of the Sabbath School, numbers twenty-three.

From time to time distinguished Christian workers have addressed the school, among others Mr. George Soltau, evangelist, Mr. Fegan and Mr. Brace, England, and Mr. Wm. Gooderham, Toronto.

The singing of the inmates is greatly improved, all, especially the children of the Refuge, entering with a zest and heartiness into this part of the service which is very pleasant to hear.

At the Christmas season, through the kindness of the Directors of the Upper Canada Bible Society, a copy of God's Word was presented to each of the Protestant inmates. Christmas cards, the gift of the teachers, were also distributed, and at various times during the year much interest has been aroused by the circulation of leaflets, tracts, books, pictures, papers, and other periodicals.

Whenever required, the teachers have provided suitable clothing for discharged inmates.

Both superintendent and lady superintendent converse every Lord's day, individually, with a large number of the inmates. Frequently from twelve to twenty persons are thus spoken to, and there is abundant evidence that many, through these conversations, have been led to a knowledge of the truth. The corridors, cells and hospital, are also visited.

During the year eighteen (as nearly as may be ascertained), were provided for by the teachers, upon their discharge from the institution. Three were sent to excellent situations; one to friends at a distance; two to furnished rooms; one to the Industrial Refuge, Yorkville; and eleven to the Haven, 206 Seaton Street. Four of those sent to the Haven were provided with good situations.

The Haven has sheltered for lengthened periods nine discharged inmates, viz., A. G., and infant, five months; S. C. and infant, three months; M. W. and infant, three months; H. H., two months; Mrs. F., three weeks, and S. McC.. two weeks.

From fifteen to twenty of the discharged inmates are living in their own homes, or in situations in the city; these are visited sometimes as frequently as twice a week by the teachers.

Several of the teachers correspond regularly with their discharged pupils, and the letters received are often interesting and encouraging.

Perfect harmony and accord have prevailed among the workers, and the unwearied kindness and unvarying courtesy of the superintendents of the institution, guards, etc., is greatly appreciated.

A spirit of enquiry is being aroused in the minds of many, a steady growth of morality and spirituality is plainly visible, and the teachers enter upon another year with no inconsiderable amount of faith and hope. They specially commend the preventive work of the Refuge, and the efforts which are being made to secure a better classification of the adult inmates.

W. H. Howland,
Superintendent.

Mrs. M. J. Harvie,
Assistant Superintendent.

THE ONTARIO REFORMATORY FOR BOYS, PENETANGUISHENE.

During the past year satisfactory progress has been made in adding to the Reformatory such structural additions and improvements as will in many ways be of permanent benefit to the institution.

It is apparent that when the object is to instruct as well as to restrain that suitable buildings and appliances are a most necessary provision, and especially in this case, where the domestic work is wholly done by the boys The reconstructed laundry, the new well-lighted and ventilated kitchen, and the securely and comfortably enclosed pump-house, all erected or refitted during the past year, will largely contribute to the comfort and discipline of the Reformatory, and while adding materially to its safety will in many respects leave the building proper in a much more finished and complete state.

In making the improvements indicated, as well as those completed under the direction of the Public Works Department, due regard has been had to the sanitary condition of the institution. Indeed, the principal reason for immediate action being taken in these matters was the outbreak of typhoid fever during the past winter, an account of which will be found in notes of inspection and the report of the Surgeon which follow.

Apart from the unusual occurrence of an epidemic disease, nothing else has taken place to disturb the satisfactory working of the institution during the year under report, and it is gratifying to note that the general order and progress of the schools and routine work has not suffered, but on the contrary it is evident that there is substantial improvement in the general working and discipline of the Reformatory.

The movements of the Reformatory population are shewn in the subjoined statement:

Number of boys in residence on the 1st October, 1883		245
Admitted during the year		81
Returned after attempted escape		1
Total in residence during the year		327
Discharged	54	
Transferred to the Central Prison	1	
Reprieved	25	
Died	3	
Escaped	2	
		85
Number in residence on the 30th September, 1884		242

Inspections.

Copies of the reports made by me to the Government upon my inspection visits are annexed:

"I beg herewith to append a copy of the report from the Surgeon of the Reformatory for Boys, dated the 18th February, in which he states that typhoid fever has made its appearance in that institution.

"In consequence of this information I visited the Reformatory on the 22nd and 23rd inst., with the view of investigating and reporting principally upon its present sanitary condition, and the following are my notes of inspection made on this occasion, which I beg to submit:

"From the Surgeon and Superintendent I learned that quite a number of cases of typhoid fever have occurred in the village of Penetanguishene and neighbouring country during the past four or five months, and that on the 19th ult. one of the Reformatory boys had an attack which developed into a mild, though well defined case.

"At intervals of about a week apart four others have similarly been seized. The surgeon reports the condition of each patient to be favourable, and the present appearance of four of them (those first attacked) indicates their rapid restoration to health and strength.

"The steps taken to prevent the spread of the disease are likely to prove effective, and the most judicious measures were at once taken to secure the comfort and good treatment of the patients by converting the Protestant chapel into a sick-room. The isolated position, ample area, and good ventilation of the chapel renders it particularly well adapted for this purpose, and it is gratifying to notice the comfortable surroundings of the patients.

"Strict inquiry has been made with the view of ascertaining the local cause for the appearance of the disease, and from the history of the existing cases it does not appear that any local position in the Reformatory has been exempt, or that being more closely employed in any particular portion has in consequence left the occupants more liable to an attack. The five boys now ill were separated in their usual occupations, one of them had been engaged in out-door work, one in the wash-room, another in the shoe-shop, and the others were at school and in the play room. Each dormitory also has a former occupant on the sick list.

"An examination of the water supply indicated that no reasonable apprehensions can be entertained in regard to its cleanliness and freedom from impurities; and the usual cleanliness and order observed in the Reformatory and its surroundings would also warrant the conclusion that the disease could not arise from inattention or neglect in this regard to general routine and domestic order.

"There is, however, reason to suppose that the appearance of the disease, to some extent, may be due to the want of proper ventilation in one of the drains leading from the central or original building, as well as to the present condition of the basement of that section of the building.

"Owing to the corroding of the steam and water pipes which underlie the stone flagging in the basement, and the necessity for reaching and replacing them properly, a trench has been dug the full length of this part of the building. In forming the trench the earth has been removed as it was dug, but in washing and scrubbing from time to time in the laundry, kitchen and halls, a large quantity of water has found its way through the interstices of the stone floors, and the excavated earth has been saturated with this dirty water for years past. As the upturning and exposure of this earth, together with the more dilapidated and open condition of the drain, are the only changes in the ordinary condition of the matters in or about the institution, I am of opinion that to these, as local causes, may be attributed the cases of fever which have lately appeared.

"The measures taken will no doubt prevent a recurrence of the mischief from this cause, as the trench is being solidly constructed with good brick, well laid in cement, and when finished will exclude the water and gases. Provision has also been made in the estimates for the current year, for a sum sufficient for the reconstruction and ventilation of this drain. But to complete the work the stone flagging will also have to be laid in cement, and the joints thoroughly filled with it, otherwise a good sanitary condition in the Reformatory may not be secured.

"Another improvement of equal value would be the removal of the laundry and kitchen, as previously recommended, the former to the old carpenter shop,

and the latter to the east wing of the main building. The attention of the Government will be called to the desirability of effecting these changes.

"The general appearance of the boys on the occasion of this visit was very satisfactory. Their clothing was generally in good condition, and no indication of ill health appeared except in the cases referred to. On the first morning of my visit they were distributed and employed as follows :—

At school	116
In the several shops, engine room	31
At stables and outside work	26
Hauling cord wood	7
Cooking, cleaning and domestic work	27
Sick, and attendants in hospital	11
Under punishment	2
Night duty	1
Band practice	18
	239

"During an interview with the county school inspector, who was paying an official visit to the Reformatory, I learned that the more advanced classes will, in many respects, bear a very favourable comparison with the average of such classes in the common schools in the county, especially in regard to proficiency in writing, arithmetic, geography and history, but that they are deficient in composition.

"The junior classes are reported to be much behind the average of such classes in the common schools, and as those classes are made up of the later entrants to the Reformatory, the statement confirms the many evidences already existing as to the greater liability of neglected and unoccupied minds to drift into mischief and crime.

"Apart from the disordered condition of the basement in consequence of the present repairs, etc., in progress, the Reformatory, both internally and in its surroundings, was found to be well kept and in good order. A marked improvement was also observed in the laundry work, due to the personal supervision of the deputy superintendent who now attends to it, in consequence of the unsatisfactory condition in which it was recently done.

"In company with the Provincial Architect, I made a second visit of inspection to the Reformatory for Boys on the 7th and 8th July. The principal object of this visit was to determine in regard to the improvements and alterations in progress, and to those to be made during the present season.

"A computation of the amount already expended, together with a careful estimate of what will yet be required for the several improvements, shews that the appropriations will be sufficient to complete all the work which can properly be undertaken with the Reformatory labour during this year.

"From a sanitary point of view, one of the important changes to be effected is the removal of the laundry from the basement of the Reformatory to the building formerly used as a cigar shop, and as the outbreak of fever during the autumn and winter in the neighbourhood, and subsequently among the inmates of the Reformatory, proves the unsuitable location of the present apartment and the greater exposure of the boys as well, the work has been hurried forward.

"The old shop is now placed on a substantial stone foundation with the necessary drainage effected, and the casing of the outside walls with brick is also finished, which, together with the concrete floor now being laid, will render it thoroughly serviceable for laundry purposes at all seasons of the year. As there

is a question of doubt about the capacity of the boilers in the main building to supply the necessary steam in the new laundry building, at the distance which it would have to be conveyed, the Superintendent is instructed to have the agricultural boiler (now out of use) thoroughly tested, and if found to be serviceable with ordinary repair, to make provision for its use and have it placed in the new building.

"The next important alteration for which an appropriation has been made, is the necessary fitting required to connect a part of the easterly divisions of that wing into a kitchen. In order to accomplish this, at least one-half of the old cell block must be removed, and an examination at this time shews that this can be done safely by the boys, without in any way disturbing the roof or its supports. The Superintendent is authorized to proceed with the work at once, seeing that the old material removed from the block is used, or as much of it as will answer in the reconstruction of the partition walls which are to enclose the new apartment.

"Attention has been called to the worn condition of the tubing in the hot water boiler, rendering it unfit for use in its present state. The Superintendent is therefore authorized to have the necessary repairs made as speedily as possible.

"The repairs, re-shingling of the bursar's house, which have formerly been authorized, are about completed, and after examination shew the work done has been finished in a satisfactory and substantial manner.

"On the occasion of my former visit on the 27th of February the principal interest in matters pertaining to the Reformatory was centered in the health of the boys and the sanitary condition of the institution. In consequence of the outbreak of typhoid fever about the middle of that month, active measures were necessary to counteract the disease and preserve the lives of those who were smitten with it. The first case appeared about the middle of February, and the last boy suffering from it was admitted to the sick-room on the 24th March, and it is gratifying to note that during its prevalence the officers, without distinction, discharged their duties faithfully and with commendable regard for the comfort and well-being of the sick.

"Since the disappearance of the disease the general health of the boys has been excellent, and the 232 who were inmates at the time of this visit were bright and healthy looking, and all actively employed in the usual occupations allotted to them.

"I made a third inspection of this institution on the 10th and 11th October

"On the first day of my visit there were 242 boys in charge, distributed and employed as follows:—

In the carpenter shop	4
" engine room	4
" stables	5
" farm and garden	2
Teaming	5
Outside work	13
Picking potatoes	100
Gate	2
Cooks	4
Dining-room	6
Laundry	7
Cleaners	17
Supt. and Deputy Supt.'s Houses	2

Protestant school	14
Catholic "	42
Hospital	6
Wing	2
	242

"The general health of the institution during the summer months has been excellent. Scarcely the usual number have been complaining of the lighter ailments to which the lads are more or less subject. About the beginning of September, however, a mild case of typhoid fever appeared, and subsequently two others of the same type occurred, but it is gratifying to state that in each case the patients have made rapid progress to a good recovery, and there does not appear to be grounds for any apprehension that the disease will spread or assume an epidemic form.

"The school-rooms were visited, and the scholars were reported to be attentive and making satisfactory progress. The general discipline of the institution also continues to be in a satisfactory state, and the usual hearty and frank expressions of countenance indicating the comfort and contentment of the boys was the prevailing feature, either when they were seen assembled or distributed at their various employments.

"An examination of the quantity and quality of the food furnished, and the manner in which it was prepared and served shewed, that the dietary was substantial and put on the table in proper condition.

"The several dormitories and all the premises were also examined, and were found to be in good order and properly kept.

"The alterations and improvements of a structural character in progress during the summer are all well advanced. The laundry and kitchen are about ready for occupation, and the work of bricking up the engine and pump-house has been finished, together with the necessary grading of the yard attached, and the roadway leading to the building. The improvements have been substantially made, and in many ways will prove to be of permanent advantage.

"The repairs to and reconstruction of drains, etc., under the direction of the Public Works Department, are also well under way and will be completed in a short time. When finished this work will add much to the sanitary condition of the Reformatory, and put the drains in such order as to require no further expenditure of labour or money for a length of time to come."

Inspection of Schools.

At my request the Minister of Education desired Mr. Morgan, the Public School Inspector of the District, to examine and report upon the Reformatory Schools. As the result, Mr. Morgan made the following report:—

Barrie, 29th February, 1884.

To the Minister of Education, Education Department:

Sir,—I have the honour to lay before you the report on the educational condition of the Reformatory for Boys at Penetanguishene, together with such suggestions in the direction of improvement as most obviously present themselves.

I may remark that this is the first time I have *completed* an inspection of the institution, the other occasions having been more preliminary in their nature. On this occasion, however—going up on Monday and returning on Wednesday, and spending in addition a day and part of a day in the institution—I have had a fair opportunity of determining, not only its condition at present, but the causes which have operated and are

still at work to prevent the amount of improvement which might otherwise fairly be looked for.

To prevent misunderstanding, however, let me state at once that the condition of the school, as compared with the majority of rural schools, thoroughly surprised me, as I did not look for the amount of intelligence or the degree of information which I found.

There are three rooms devoted to school purposes; one a large, finely lighted room, which might with advantage bear sub-divison, and two very much smaller rooms. As compared with really good rural schools, the absolute space per pupil is only about one-half what it ought to be, and it is sufficient for the present only because the pupils are in at school for only just half the day, *i.e.*, half attending in the morning and the other half in the afternoon.

In the senior room of the Protestant school, I found the first, third, fourth and fifth classes at work under Mr. E. H. Murphy, a former teacher in my inspectorate, and a gentleman who gives proof of exceptional ability. The number in his room, however, is so great that he is compelled to hand over almost entirely the teaching of the first class to one or two of the older pupils in his room. Holding the belief which I do, that the teaching of class I. is alike the most difficult and the most important part of a teacher's duty, I feel that this arrangement, at present rendered necessary by the pressure of work, is ruinous to the success of the teacher in the higher classes. Obviously there is no present remedy, for every moment of Mr. Murphy's time must be taken up with boys who, at best, can spend only three hours a day in the school-room. In this room I found arithmetic and writing thoroughly taught; geography and history fairly mastered by the pupils in the higher classes and something done with algebra and Euclid; English, however, whether written, spoken or read is decidedly poor. The reading lacked clearness of enunciation, correct phrasing, and few pupils even attempted to give any expression. In one or two cases the composition was fairly creditable, the rule was decidedly the other way.

The second class is large enough to occupy a small room, and to be taught by Mr. Ferguson, who was at one time a teacher in North Simcoe. Here, for the first time, the boys are brought under the influence of regular teaching, and it is no doubt owing in some degree to this fact that the educational status of this division is very low indeed.

Passing down stairs to the Roman Catholic schools, I find as unsatisfactory results as in Mr. Ferguson's room. This division includes all the classes from first to fourth. Of itself this is a great difficulty to contend with, the teacher's time being so sub-divided that he can give comparatively little attention to each class. Two other causes also contribute to render the result in this room poor, as compared with Mr. Murphy's division: (1) There has been a constant change of teacher, and the choice would seem to have been sometimes determined by other considerations than educational fitness. I am pleased now to find installed Mr. Madden, a successful teacher and an under-graduate of the University of Toronto. I look for a decided improvement under his management. (2) A comparison of facts elicited from the boys themselves (as per schedule enclosed) reveals the curious fact that in the Protestant school only about one-twentieth had attended no school previous to their entrance into the Reformatory, whilst in the Roman Catholic school about sixty per cent. received their first lesson in that institution. I wish particularly to call your attention to this fact, in view of a strong recommendation to be made further on. It should be noted also that the teachers in the Reformatory labour under a great disadvantage in that they are completely isolated, and have not the opportunities enjoyed by other teachers of keeping abreast with the constant improvement in modes of teaching and methods of government. Had they the privilege of attending teachers' conventions they would undoubtedly derive advantage.

Amid much that calls for criticism it is a pleasure to notice the order and discipline, which are admirable. Nor must it be supposed that it is a sullen and unwilling (though perforce prompt) obedience which the scholars render. On the contrary, my intercourse with them was unmixed pleasure. The warm interest, the bright intelligence and respectful courtesy would put to shame many a school which is, or ought to be, a model. That this is due in part to the teachers is true; that it is a necessary result of the admirable system observable everywhere through the building does not admit of a doubt.

The first feeling prompted is one of surprise that so much is accomplished under so many disadvantages; the second, and decidedly the more powerful, is regret that the opportunities are so limited. There is no doubt that the boys should look on their sojourn here as a period of probation from which they are removed just as soon as the Warden sees that they are fitted to take their places in the outside world, and an important factor in forming his estimate should be their progress and status in the school-room. Is it too much to hope that the time may come when these boys on leaving will absolutely be sought for, if they leave under good auspices? Such a result is perfectly possible. Already their physique receives thorough attention; the moral condition should be attested to by the Warden, and the mental training should be of a different nature from that which they receive now. The tendency everywhere in the world is towards utilitarianism, and it certainly should be the aim of the teaching in the Reformatory. I would give but little place to algebra, geometry, geography, history, etc., but I would insist on really good reading, writing, English and book-keeping, arithmetic (especially mental and commercial), spelling, mechanical drawing and vocal music, looking also forward to the time when phonography and telegraphy would be added. That such a programme would be imposible with the present staff of teachers is doubtless true, especially with the time the boys are in school. To meet the case two things are urgently needed—another large room and an additional teacher, and a junction of the two schools with proper grading throughout.

(1) I am not aware if this would be possible with the present building, but where so much money has been and still is spent, is it too much to hope that more accommodation may be provided? As far as the head teacher is concerned, one should be obtained who can teach as many of the new subjects as possible, if even it is at a high salary, and in any future changes the same purpose should be kept steadily in view, filling the places in the meantime with occasional teachers—and in some cases this can be done in the adjoining town—of such subjects as cannot be taught by the regular employees.

(2) I am quite aware of the difficulties which would be met with in proposing or attempting a fusion of the two schools under any other circumstances, but whatever feeling exists as to the necessity or advisability of separate schools elsewhere, I think there can be but one in this case. As there are two chaplains, and as the boys are absolutely under the control of the officers of the Reformatory, the amplest provision might be made for separate religious instruction daily, with a total removal of all distinctions or barriers during purely secular teaching. The advantages of such an arrangement are so obvious and unquestionable that it is not necessary to discuss them. Suffice to say that with such a fusion, with a proper grading of the school as a result of such union, with the additional teacher and a couple of hours added daily to the time each pupil is in school, the absolute instruction each boy would receive would be more than doubled, and the practical subjects indicated above could be taught with success. Add to this that it might be arranged for each teacher to teach in every grade those subjects which he taught specially well, and the advantages of such a change become still greater. I do not hesitate to say that the results achieved in two years would, if started now, be looked on as impossible by any one who has not seen the immence advantages derived from a properly graded school with the resulting division of labour.

Finally, whilst I take a deep and powerful personal interest in these schools, and whilst I would sever my connection with them with exceeding regret, I cannot refrain from strongly urging the advisability of filling my place with an Inspector whose duties are so light as to admit of his giving about a week at each inspection, which should take place, if possible, every quarter. With my large district this is impossible to me, and, whilst feeling and appreciating the honour done me by my appointment, my hearty interest in the success of the institution would make me see with pleasure the effecting of a change which would be much for its benefit.

I must acknowledge in conclusion the unvarying courtesy and valuable assistance rendered me by the Warden and other officers, an assistance which greatly facilitated my work and rendered more reliable the conclusions at which I arrived.

I have the honour to be, Sir,
Your obedient servant,
J. C. Morgan.

I have omitted any mention of the fact that there is a deficiency of good blackboard, maps, apparatus, etc., that the attention of the authorities has been called to these defects, and that I believe the want will in a short time be supplied. I give below a summary of the suggested changes:

1. Employment of additional teacher with additional room.
2. Fusion of the two schools into one, with systematic regrading.
3. Two hours longer in school for each pupil.
4. Change in programme, keeping steadily in view the teaching of practical subjects and those which might cause the boys to be rather sought after.
5. Minor improvements about the building.

MAINTENANCE EXPENDITURE.

The cost of maintaining the Reformatory during the year is shewn hereunder:—

Services.	Total expenditure.	Annual cost per inmate.
	$ c.	$ c.
Salaries and wages	15,810 62	65 60
Rations	7,368 21	30 57
Bedding and clothing	4,465 90	18 53
Fuel, light and cleaning	5,486 92	22 77
Furniture and furnishings	733 46	3 04
Farm expenditure	1,875 64	7 78
Ordinary repairs	1,018 40	4 23
Stationery, postage, telegrams and advertising	738 97	3 07
Workshop, tools and fixtures	415 94	1 73
Hospital expenses	104 52	43
Chapel, schools and library expenses	384 52	1 59
Officers' travelling expenses	216 43	90
Recovering escaped boys	230 75	95
Rent of cottages for guards	474 87	1 98
Freight	344 24	1 43
Sundries	856 73	3 55
Totals	$40,526 12	$168 15

The Report of the Superintendent (with statistical tables attached), the Chaplain, the Schoolmaster and the Surgeon of the Reformatory, will be found in the following pages:—

ANNUAL REPORT OF THE SUPERINTENDENT OF THE ONTARIO REFORMATORY FOR BOYS.

Penetanguishene, Oct. 15, 1885.

Robert Christie, Esq.,

Inspector of Prisons and Public Charities.

Sir,—I have the honour, herewith, to submit the Twenty-fifth Annual Report of the Ontario Reformatory for Boys for the year ending September 30th, 1884.

The statistical tables appended will, when compared with 1882-3, shew a decrease in the average number of inmates. In 1882, 249 was the average, increasing to 255 in 1883, whilst this year the average number is reduced to 241. Many reasons might be advanced to account for this reduction, but it is to be regretted that it is not due to a decrease in the number of commitments. The figures fifty-eight represent those for 1883,

in 1884 the number is 81, an increase of 40 per cent. During the year just ended it will be further noted, in respect to the movements of inmates, that only one was transferred to the Central Prison, two escaped, three died, fifty-four were discharged on termination of sentence, and twenty-five obtained remission of sentence through the exercise of executive clemency. These latter figures are the most consolatory of the group as they evidence the fact that, no matter what fluctuations take place in respect to commitments, the number of remissions for good conduct and marked progress keep steadily on the increase. This is the more noteworthy as the system under which these discharges are obtainable is, to say the least, rather difficult of application. This will be better understood when the fact is made known that the system is, in every respect, the same as that which must be followed when executive clemency is sought in favour of the felons and convicts committed to the Penitentiaries of the Dominion. That this is a palpable absurdity is painfully evident, when it is considered that the ages of the large majority of our inmates range from seven to fifteen, and that of these fully 90 per cent. are committed for petty offences. There is reason to believe that this system was first put in operation in connection with the penal institutions referred to, and, that in all its cumbersome details, it is the same now as when first conceived; therefore, in regard to our juvenile offenders it is entirely too stringent in its methods, and these should be modified.

During the past year considerable structural improvements of a radical character were projected and are now approaching completion, the most important being the removal of one half of the remaining portion of the cell structure, and the diversion of the space thus acquired to the purposes of a kitchen, bringing, by this arrangement, the dining-hall and kitchen into closer proximity, besides removing the latter from the dark, dreary, and unhealthy basement, and securing for those employed therein the light and sunshine of the ground floor. The further advantage of securing that the steam and smell of the cooking operations will no longer permeate the main building, is too apparent to require lengthened notice. Similar provision for the better performance of the laundry work, which hitherto had perforce to be relegated to the basement, have been made by the adaptation of the building known as "the old carpenter's shop," situated in the eastern side of the enclosure. The advantages sure to accrue from these much needed improvements can hardly be estimated, and, next to the substitution of the associated dormitories in exchange for the cells, and the removal of the latter structure to make room for the new dining and lecture halls, they will take rank, from a moral and sanitary stand, as being the most important of the structural reforms entered on within a long series of years.

The placing of a stone foundation under the pumping-house and the bricking up of that structure, together with the erection of a brick smoke-stack in its connection—all of which has been done during this summer—are works of some magnitude, and are of too much importance to be overlooked in this report.

For all inmates capable of labour there has been no lack of employment. In fact, had we as many more boys between fourteen and eighteen as we had during the season which permits of earth removal, at work, there would have been no difficulty in utilizing profitably their labours. But, owing to the peculiar sources from whence we derive our workers, no matter how much we may suffer through scantiness of supply, we cannot well give utterance to the lamentation that "the labourers are few."

Still, considerable progress has been made this summer in improving the walks, grounds, etc., within and without the enclosure. The road leading to and the grounds attached to the pumping-house on the bay shore, have had a large amount of labour expended on them, with the result that around the structure itself an extensive area has been levelled and fenced in, and, by making a circuitous roadway in that direction the steep incline has been avoided, and the great difficulty hitherto of reaching it with our teams has thereby been removed. The footway has also been made easy of ascent and descent through the hillside, being provided with levels at regular intervals, these being reached by broad wooden stairways securely placed. When the height and steepness of the declivity (it being at this point nearly 150 feet above the Bay, and almost perpendicular), and the rugged character of the soil is considered, the size and superabundance of

the granite boulders requiring to be removed, and the quantity of earth displaced are taken into account, and that only boys varying in age from thirteen to eighteen were employed thereat, a better idea of the success achieved will be arrived at. The boulders and surplus earth were utilized in making a good wharf, of considerable dimensions, in the vicinity of the pumping-house, the drift saw-logs which line the shore of the Bay in this neighbourhood being appropriated, and used for the purpose of facing up and completing the dock. Other works of a like character as regards utility, and through the same causes alike difficult, have been well started, and we have hopes that before the end of next season these will also be carried to successful completion.

The season being somewhat favourable, the farm and garden returns are more encouraging than they have been for some years past. Our good fortune in this respect will enable us to put away a varied supply of roots and vegetables, sufficient to last until next season's crop is available. Owing to the light and sandy character of the soil, and the fact that the spring-time in this latitude is generally cold and backward, our farming and gardening operations are, through these and kindred causes, rendered precarious. Yet, on the whole, by the liberal use of manure and other fertilizers, and intelligent efforts on the part of those in charge, a very fair average return has so far been maintained.

In the face of difficulties growing out of the economy which we are at all times compelled to practise, we have by patient efforts succeeded in improving to a considerable extent the quality of our horned cattle, and by judicious management of them we are now, for the first time in a number of years, in a position to give our boys a full supply of milk the year round. Early last spring, by the exercise of a little tact, the exclusive services of a thoroughbred bull were for a nominal annual sum secured ; therefore, through the new and pure blood thus infused, we may safely speculate on still further improvement in the milk producing qualities of our cattle being effected.

In my reports of 1880–1, not very flattering reference was made to the number, quality and condition of our live stock generally, particular stress being laid on the very poor character of the porcine portion of the stock. As shown above, marked improvements have been made throughout in the quality of our horned cattle, and it is now my very pleasant duty to report similar results in respect to our stock of pigs. This change for the better, when the condition of affairs in 1880–1 is considered, has not been of slow growth, and, taking into account all things, our success in this particular matter is worthy of being noted. Last year I was enabled to state that when the season for packing had arrived, we would be in a position to cure a quantity of pork of our own raising, almost double in amount that of any year during the last decade. Further, that "our stock for next year's purposes is in such numbers and condition, as to justify us in speculating on a reasonable increase in the above shewing." That our speculations then were not without a substantial basis is evidenced by the fact, that, when the Bursar consulted us in reference to meat contracts for the present year, we were happily enabled to say to that officer that he need not include pork in his requisition, as, when the season permitted, we would cure enough of our own raising to meet all our requirements. Our steady progress in this section of stock-raising will be better appreciated, when it is stated that in 1881 purchases of pork to the extent of 13,000 lbs. required to be made ; in 1882, 10,000 lbs. ; 1883, 8,500 lbs. ; 1884, *nil.* Yet this is not all, as, after killing the quantity needed for this year, say 13,500 lbs., we will still have on hand a large stock of store pigs, and these with their increase will, I have reason to hope, be more than sufficient for the requirements of next year. In fact, from being in the past large purchasers, we expect to be, in the near future, sellers of that food commodity. This point, considering all things, not the least being the fact that our piggeries are of the rudest and most uncomfortable character, has not been reached without the usual difficulties attendant on all such attempts where routine must, of necessity, hold sway. That we have so far succeeded is due to patient efforts on the one hand, and active, intelligent exertions on the other. In so far as the latter is concerned, the meed of praise is due to the Deputy Superintendent, for in this, as in many other matters of a like nature, where unflagging zeal and persevering endeavour are essential to insure success, he can be thoroughly depended on.

It is not to be expected, in a community such as this, that a whole year should pass without producing the usual average of trials, tribulations and consolations, the latter oft-times being in an inverse ratio to the two former. Yet, such has not been our experience for the past twelve months, for, although our trials and tribulations have not been few, still our consolations more than counterbalance them.

Above, we have inferentially conveyed to you that our trials and anxieties for the past year have not been unreasonably heavy or burthensome, and we are led to so conclude by comparing the present position of affairs with that of the past, more particularly those earlier years when we first grappled with the difficulties which beset us at every point when endeavouring to make the change from the repressive to the paternal system of discipline. The most serious of these were: 1st. That growing out of the hardening process to which they had been so long subjected; it was exceedingly difficult, at first, to convince the boys that the Government and ourselves were in earnest when promising ameliorations in discipline and improvements in their surroundings. 2nd. To succeed in imbuing the minds of a number of our then assistants with faith in the efficiency of the system we were aiming to introduce; and 3rd. To, at the same time, expel all lingering doubts existing amongst these as to the possibility of the inmates not appreciating the change, or of their not readily responding to the efforts required to be put forth in connection with its introduction. By persistent and unswerving effort these hindrances to success were gradually overcome or removed, therefore any failure now will be directly due to carelessness on the part of those whose duty it is to see that the work does not flag or cease to be progressive; and whose daily task must be to keep strict watch in order that no tendency towards supineness or indifference become developed.

With this preamble we will now proceed to examine the present condition of our charge, being careful at the same time to keep our too sanguine temperament under restraint in order that it may not influence us in misleading others or in deluding ourselves.

First. The physical health of the boys has been, throughout the year and still is, excellent. (Exception is, of course, made here to a period during last winter when typhoid fever prevailed, the causes and effects of which will be fully given in the Report of the Surgeon.)

Second. Their moral health is also good; this being evidenced by the Report of the Chaplains.

Third. Their mental progress is exceedingly satisfactory; this being vouched for by the Inspector of Public Schools, as well as by the school teachers who are in daily contact with them.

Fourth. Their progress in the workshops and other fields of industry is decidedly encouraging, this being shewn by the daily reports furnished by their instructors.

Fifth. That they are happy and contented is proved by their brightness of mien, and the alacity which they display in their work or at their play.

Sixth. And, that notwithstanding year by year, a larger measure of personal liberty has been accorded them, yet year by year, the tendency to escape become gradually lessened; eleven consecutive months of the present year having passed without one attempt in that direction.

That the boys are attaining a higher degree of moral and religious perception is evident; the difference between right and wrong being now more clearly understood. It is most consoling to witness in the struggle between these opposing forces how often victory decides in favour of the right, although the sole certain reward here is only that of an approving conscience.

I have the honour to be, Sir,

Your obedient servant,

THOMAS MCCROSSON,

Superintendent

STATISTICAL TABLES.

Shewing the operations of the Reformatory for the year ending 30th September, 1884.

In residence, 1st October, 1883	245	
Admitted during the year	81	
Returned after attempting to escape	1	
Total number during the year		327
Discharged according to sentence	54	
Transferred to the Central Prison	1	
Reprieved	25	
Died	3	
Escaped	2	
		85
Remaining in residence September 30th, 1884		242

NATIONALITIES of boys committed during the year and of those committed since the establishment of the Reformatory.

	Commitments of the year.	Total commitments.
Canadian	59	1091
English	7	137
United States	9	126
Irish	6	53
Scotch		26
Other Countries		17
Total	81	1450

RELIGIOUS denominations of Boys committed during the year, and of those since the establishment of the Reformatory.

	Commitments of the year.	Total commitments.
English Church	19	482
Roman Catholic	38	494
Presbyterian	6	132
Methodist	16	256
Baptist	1	66
Other denominations	1	20
Total	81	1450

Ages when Committed.

4 at 9	14 at 13	2 at 17
6 at 10	17 at 14	1 at 18
14 at 11	13 at 15	
5 at 12	5 at 16	
Total		81

Periods of Sentences.

For 2 months, and an indefinite period not to exceed 5 years	1
" 1 year, " "	4
" 2 years, " "	2
" 2 years, and an indefinite period	3
Indefinite period not to exceed 5 years	2
For 6 months and a further period of 4½ years	1
" 1 year, and a second year if the authorities think fit	1
" 2 years	8
" 3 "	27
" 4 "	17
" 5 "	15
Total	81

Crimes and Offences for which the 81 boys were convicted and sentenced to the Reformatory.

Larceny	48
Housebreaking and larceny	1
Vagrancy	4
Shopbreaking and larceny	1
Incorrigible conduct	2
Horse stealing	3
Shopbreaking	2
Housebreaking	1
Breaking open bonded car	3
Burglary	6
Larceny of post office letters	1
Breaking into a store and stealing clothing	3
Willful damage	1
Trespass on railway property	1
Stealing horse and buggy	1
Riding on a Grand Trunk car without a ticket	2
Obstructing the railway	1
Total	81

Counties of Province from which the 81 commitments were made during the year.

Brant	1	Kent	6
Carleton	2	Lambton	3
Elgin	4	Lanark	1
Essex	1	Lincoln	1
Frontenac	2	Middlesex	4
Hastings	2	Norfolk	2
Huron	1	Northumberland and Durham	1

Ontario	5	Welland	1
Oxford	5	Wellington	2
Peterborough	1	Wentworth	14
Prescott and Russell	1	York	15
Renfrew	1		
Simcoe	1	Total	81
Stormont, Dundas and Glengarry	4		

NUMBER of commitments since Confederation.

COMMITMENTS.	YEAR.	No.	No. at close of same year.
Committed in	1867	55	170
"	1868	57	173
"	1869	47	170
"	1870	41	163
"	1871	48	155
"	1872	48	158
"	1873	31	130
"	1874	58	139
"	1875	71	173
"	1876	47	183
"	1877	75	195
"	1878	69	196
"	1879	57	206
"	1880	80	216
"	1881	96	250
"	1882	84	263
"	1883	58	245
"	1884	81	242

PRODUCE of the Farm and Garden attached to the Ontario Reformatory for Boys from the 1st October, 1883, to 20th September, 1884.

Timothy Hay	19 tons	@	$10 00	..	$190 00
Marsh Hay	7 tons	@	8 00	..	56 00
Potatoes	1206 bushels	@	25	..	301 50
Turnips	200 bushels	@	15	..	30 00
Milk	20048 quarts	@	3	..	601 44
Pork	6365 lbs	@	7 50	..	477 37
Beef	3 fat cows			..	125 00
Pigs	53	@	4 00	..	212 00
					1993 31

GARDEN.

Vegetables	829 47

REVENUE.

Farm and Garden	55 59
Total	$2878 37

STATEMENT exhibiting the unproductive labour in the various shops for the year ending 30th September, 1884.

CARPENTER SHOP.

	DAYS.	$ c.
To work at the Superintendent's house	330	$132 00
" " Deputy do do	51	20 40
" " Bursar's do	15½	6 20
" " R. C. Chaplain's do	4	1 60
" " Guards do	55	22 00
" " Institution	3227	1290 80
Total number of days	3682½ at 40c.	1473 00
To cash as per workshop account		8 00
		1481 00

SHOE SHOP.

To 591 pairs of Cobourg boots @ 50c. making		$295 50
" 25 " long do @ 75c. "		18 75
" 600 " boots repaired @ 30c. "		180 00
" 450 days work outside @ 25c. "		112 50
" Cash as per workshop account		14 10
		620[illegible]85

TAILOR SHOP.

To making 325 coats for inmates	@	$1 00	$325 00
" 672 pants "	@	50	336 00
" 449 drawers "	@	15	67 35
" 289 shirts "	@	12½	36 12
" 26 caps "	@	20	5 20
" 12 night-shirts "	@	25	3 00
" 185 mattresses for dormitories	@	25	46 50
" 462 sheets " "	@	10	46 20
" 411 pillow cases "	@	05	20 55
" 388 towels " "	@	01	3 88
" 36 prs. slippers "	@	10	3 60
" 16 aprons for cooks and bakers	@	10	1 60
To repairing 1258 shirts for inmates	@	05	62 90
" 794 drawers "	@	05	39 70
" 65 coats "	@	10	6 50
" 80 pants "	@	10	8 00
" 663 sheets for dormitories	@	05	33 15
" 258 pillow cases	@	01	2 58
" 25 suits for guards and officers	@	5 00	125 00

To repairing	2 pairs of pants for	" ..	@	1 00 ..	2 00	
"	19 overcoats for guards	.....	@	3 00 ..	57 00	
"	3 oversuits	"	@	1 50 ..	4 50	
To outside work 306 days		.....	@	25 ..	76 50	
To cash as per workshop account		.....			1 70	
						1314 28

RECAPITULATION.

Carpenter shop	.....	1481 00
Shoe "	.....	620 85
Tailor "	.....	1314 28
		$3416 13

PROTESTANT CHAPLAIN'S REPORT.

PENETANGUISHENE, 10th October, 1884.

R. CHRISTIE, ESQ.,

Inspector of Prisons and Public Charities:

SIR,—I have the honour to transmit the following report, as Protestant Chaplain of this Institution for the year ending 30th September, 1884.

The number of boys under my charge at the close of the year is 146, being fifteen less than when my last report was presented. Fourty-four came in during the year and fifty-nine went out, nearly a score of whom were liberated.

The Sunday and weekday services are conducted according to the rules issued by the Government in 1881. These services must necessarily have a beneficial effect upon the minds of the lads, many of whom had never bent their knees to a Creator before they entered these walls, and although brought up by professedly Christian parents—for all claim to be attached to some one of the many denominations of Christendom, are ignorant of the A. B. C. of religion.

Every boy, on entering, is closely questioned as to the religious persuasion of his parents, his and their attendance at a place of worship, Sunday school, etc., etc. The answers solicited show a deplorable carelessness or ignorance amongst the people whose children find their way to the Reformatory.

Every effort is made here to instruct each lad in the rudiments of Christianity, and no boy of ordinary intelligence is in the institution long, who does not understand that he is a responsible creature to a Divine Creator.

I cannot speak of the labours of a Chaplain here as "burthensome," but there is much responsibility attached to the position, to come in contact with youths whose natural habits and inclinations are uncurbed, and to endeavour to train them to take their place as honest and respected citizens, is the work we have undertaken, and as years roll on and boys of various characters come under our teaching, the responsibilities of our labours press upon us, and we venture to hope for the prayers and sympathies of a Christian public.

The Lord Bishop of Toronto continues to show his interest in the institution by visiting it annually and sending illustrated papers and books which are regularly given to the authorities for distribution.

I have the honour to be, Sir,

Your obedient servant,

G. A. ANDERSON,
Protestant Chaplain, Ontario Reformatory for Boys.

ROMAN CATHOLIC CHAPLAIN'S REPORT.

PENETANGUISHENE, 11th October, 1884.

R. CHRISTIE, Esq.

Inspector of Prisons and Public Charities:

SIR,—I have the honour to transmit the following report as Roman Catholic Chaplain of this Reformatory, for the year ending 30th September, 1884.

The number of boys under my care on 30th September, 1883, was 86; on 30th September, 1884, it is 96.

During the year thirty-eight Catholic boys have been received here; of these, twenty-seven had not made their first communion, nor had they been confirmed. During the year twenty-eight names were removed from my roll; of these, twenty-six had been confirmed and all had made their first communion.

Notwithstanding the rapid increase in numbers (an increase of thirty-eight per cent. in three years), our chapel accommodation is ample and its good arrangement does credit to the wise forethought which directed the selection of the present situation.

Our library is well assorted and as well patronized. Eighty-five per cent. of boys who can read are on the library list.

Allow me, Sir, in this place, to put on record an acknowledgment of the valuable co-operation and assistance I have received from the authorities here. Every facility has been afforded me for the effectual discharge of my duty towards the boys under my care.

The conduct of the boys has been very good. Under instruction they behave admirably, and give, at all points, vastly less trouble than one would naturally be prepared for, whilst the regularity with which they attend to their religious duties repays one amply for all the care he can take of them.

I have the honour to be, Sir,
Your obedient servant,

J F MCBRIDE,
R. C. Chaplain, Ontario Reformatory.

PROTESTANT SCHOOLMASTER'S REPORT.

PENETANGUISHENE, October 13th, 1884.

ROBT. CHRISTIE, ESQ.,

Inspector of Prisons and Public Charities, Toronto, Ont.

SIR,—I have the honour herewith to transmit the Report of the Protestant School for the year ending September 30th, 1884.

During the past year neither my assistant nor myself have had occasion to report any boy for misbehaviour during school hours.

It is not necessary for me to say anything about their progress in their various studies as the County Inspector of Schools, under whose supervision we have been placed, will be a more suitable authority in the matter than I am.

I would again respectfully recommend that some reward be given to those who exhibit the most diligence and proficiency in their studies; if the reward given was in such form that they could send it home to their parents as evidence of their industry and progress, I believe it would prove a powerful and healthy incentive, urging them to more vigorous efforts.

I enclose the usual statements of attendance, etc;

REPORT OF ATTENDANCE.

	Quarter ending Dec. 31st, 1883.	Quarter ending Mar. 31st, 1884.	Quarter ending June 30th, 1884.	Quarter ending Sept. 30th, 1884.	Total.
Senior Teacher's Room :—					
Aggregate attendance	5,408	3,730	3,788	4,436	17,362
Number of days taught, 241.					
Average daily attendance, $72\frac{10}{241}$.					
Aggregate non-attendance.					
Causes. At work	459	187	226	454	1,326
Causes. Sickness	24	71	36	23	154
Causes. Under punishment	7	9	3	20	39
Average daily non-attendance, $6\frac{73}{241}$.					1,519
Assistant-Teacher's Room :—					
Aggregate attendance	3,852	2,913	4,278	4,426	15,469
Number of days taught, 233.					
Average daily attendance, $66\frac{91}{233}$.					
Aggregate non-attendance.					
Causes. At work	160	30	181	279	650
Causes. Sickness	95	133	182	190	600
Causes. Under punishment	10	5	11	6	32
Average daily non-attendance, $5\frac{117}{233}$.					1,282
Total average daily attendance of Protestant schools, 138.					
Total average daily non-attendance, 11.					

	Number in School October 1st, 1884.		
	Morning.	Afternoon.	Total.
Senior Teacher's Room	18	50	68
Assistant Teacher's Room	38	40	78
	56	90	146

STATEMENT showing number in each class October 1st, 1883, and position of same, September 30th, 1884.

	No. in each Class Oct. 1st, 1883.	Position on September 30th, 1884.							Gone out.
		1st Class.	2nd J. Class.	2nd S. Class.	3rd J. Class.	3rd S. Class.	4th Class.	5th Class.	
5th Class	11							3	8
4th Class	13						2	2	9
3rd Senior Class	19					2	6	1	10
3rd Junior Class	25				6	5	3		11
2nd Senior Class	37			13	16	1	1		6
2nd Junior Class	40		15	20	1				4
1st Class	16	6	9						1
	161								

EDUCATIONAL status of boys received and discharged, etc., for year ending September 30th, 1884.

	1st Class.	2nd J. Class.	2nd S. Class.	3rd J. Class.	3rd S. Class.	4th Class.	5th Class.	Total.
Received	19	8	8	7	2	.....	.....	44
Discharged	3	4	9	12	8	12	11	59

I have the honour to be, Sir,
Your obedient servant,
E. W. MURPHY,
Senior Protestant Teacher,
Ont. Reformatory for Boys.

ROMAN CATHOLIC SCHOOLMASTER'S REPORT.

PENETANGUISHENE, 3rd November, 1884.

R. CHRISTIE, ESQ.,
Inspector of Prisons and Public Charities.

SIR,—I have the honour to transmit this report, as Roman Catholic Schoolmaster of the Reformatory for Boys, for the year ending 30th September, 1884.

The number of boys received during the year is 38, of whom one was in the 5th book, one in the 4th, two in the 3rd, fifteen in second, five in the 1st, and fourteen were totally ignorant.

The following subjects have been handled during the year, viz.: Reading, writing, arithmetic, geography, grammar, book-keeping, dictation and composition; together with occasional lectures on stated subjects, such as simple chemistry (components of air, water, etc.), drawing (maps), history, etc.

The interior of the school-room is much the same as it was last year. There is no improvement regarding maps, map-stands and globes, which renders the necessary study of geography almost impossible. Owing to the large increase in the number of Catholic boys, the seating is almost all taken up. The greatest attendance at a single session is 49. Proper seating accommodation 48.

	Year ending 30th Sept., 1883.	Year ending 30th Sept., 1884.
Total number of boys on roll	86	96
" " received	23	38
" " discharged	20	28

CLASSIFICATION.

	30th Sept., 1883.	30th Sept., 1884.
In V. Book	7	17
In IV. "	15	16
In III. "	15	13
In II. "	11	24
In Senior I. Book	15	14
In Junior I. "	23	12
Total	86	96

STATEMENT OF ATTENDANCE AND NON-ATTENDANCE.

	Quarter ending 31st Dec., 1883. Days 76.	Quarter ending 31st Mar. 1884. Days 75.	Quarter ending 30th June, 1884. Days 76.	Quarter ending 30th Sept., 1884. Days 66.	Year—293 days.
Morning Session:					
Average attendance	21.05	18.98	24.32	25.35	22.43
" non-attendance	7.81	11.57	4.44	8.48	8.07
" Roll	28.86	30.55	28.76	33.83	30.50
Afternoon Session:					
Average attendance	24.00	23.78	36.05	42.77	31.65
" non-attendance	15.26	16.53	6.84	7.27	11.48
" Roll	39.26	40.31	42.89	50.04	43.13
Whole School:					
Average attendance	45.05	42.76	60.37	68.12	54.08
" non-attendance	23.07	28.10	11.28	15.75	19.55
" Roll	68.12	70.86	71.65	83.87	73.63

Owing to illness on the part of the teacher, and to disease in the institution, which last caused the school to be closed from 25th of February until the 15th April, the average attendance (for first three quarters) is reduced very materially, while consequently the non-attendance is increased.

I have the honour to be, Sir,
Your obedient servant,
P. J. McMahon,
Roman Catholic Schoolmaster.

SURGEON'S REPORT.

Penetanguishene, October, 1884.

R. Christie, Esq.
Inspector of Prisons, etc.

Sir,—I have the honour to submit the Medical Report on the sanitary condition of the Provincial Reformatory for the year ending September 30th, 1884.

With the exceptlon of a severe attack of typhoid fever the health of the boys has been good, the only inmate of the hospital at the present time being a case of consumption.

This boy's release has been recommended, but having no friends able and willing to care for him, he is still retained in the institution.

In my report I deem it unnecessary to go into the individual cases treated during the year, but will confine my remarks to the *cause* and *duration* of the fever.

It was thought that after putting down new drains about the building last year we would escape a visitation of the scourge that has been so remarkably prevalent throughout the Province during the past few years, and our hopes would doubtless have been realized had not an unfortunate breakage taken place in the steam and water pipes distributed underneath the stone floor of the basement, the repair of which necessitated the excavation of the *basement* from one end of the building to the other.

In making this excavation it was necessary to cut through an old drain, and the soil underneath the stone flags, which was more or less saturated with the wash of the kitchen and washroom, had to be disturbed, and here no doubt was the origin of the fever.

This excavation was made as quickly as possible, all the displaced earth was removed, and the water and steam pipes built round with brick work, so that in case of any breakage in the future no digging or disturbance of the soil will be necessary.

The excavation in the basement was commenced on the 5th of January, and on the 19th the first case of typhoid was sent to the hospital, the second followed in a few days, after which the fever raged with more or less severity for about four months. We had in all about forty cases of which three terminated fatally.

After the disease made its appearance a report giving all the particulars was sent to the Inspector of Prisons, and every precaution taken to prevent, if possible, its spreading among the boys.

All parts of the building were kept disinfected, the schools were closed, and the boys kept in the open air as much as possible.

The Superintendent had all the extra hands that could be obtained to push on the work in the basement. We took possession of the Protestant Chapel on account of its isolation, and converted it into a hospital, and I attribute the small death rate largely to our hospital accommodation and the excellent manner of supplying fresh air to the sick.

The boys in the hospital had every care and attention, and were well supplied with everything necessary to their comfort.

An analysis of the water supplied to the institution was made, and it was a source of great satisfaction to ascertain that our water supply was pure. During the progress of the fever we had a visit of inspection from the members of the Provincial Board of Health, and I understand that the report they made coincided with the report previously sent to the Inspector as to the origin of the disease.

The patients came from all the dormitories and shops in about equal proportion, showing that no particular shop or dormitory was more unhealthy than another.

During the past summer all the water closets and urinals have been repaired where necessary and a better mode of ventilation given.

The washroom and kitchen formerly in the basement have been removed, one being placed at the end of the dining hall and the other away from the main building, so that in future the main building and dormitories will be free from all smell arising from cooking and washing.

Exclusive of the fever we had about the ordinary amount of sickness during the year, excepting the months of July, August and September during which time it was the exception to have a patient in the hospital other than the case of phthisis.

We have had four cases of fracture, all terminating favourably.

In closing my report I must thank the officials of the Reformatory for their kindness and assistance during the trying days of the fever, and for always making the comfort of the sick boys the first care of the institution.

One of the night guards, while on duty, contracted the fever, and suffered from a long and very severe illness which rendered him an invalid during the greater portion of the summer.

I have the honour to be, Sir,

Your obedient servant,

P. H. Spohn,

Surgeon, Reformatory for Boys.

ONTARIO AGRICULTURAL COLLEGE, GUELPH.

TENTH ANNUAL REPORT

OF THE

ONTARIO

AGRICULTURAL COLLEGE

AND

EXPERIMENTAL FARM,

FOR THE YEAR ENDING 31ST DECEMBER,

1884.

Printed by Order of the Legislative Assembly.

Toronto:
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1885.

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REPORT OF THE PRESIDENT

OF THE

ONTARIO AGRICULTURAL COLLEGE,

GUELPH,

FOR THE

YEAR COMMENCING 1st JANUARY AND ENDING 31st DECEMBER,

1884.

GUELPH, January 2, 1885.

To the Honourable A. M. ROSS,
Commissioner of Agriculture:

SIR,—In presenting the Tenth Annual Report of the Ontario Agricultural College and Experimental Farm, I beg to state that, in compliance with your suggestion, I have referred with greater brevity than usual to the various operations of the past year, leaving each Professor to report more fully on the work done in his own department.

MANAGEMENT.

It is scarcely necessary to repeat that the management of the Institution is divided between the President and the Farm Superintendent, who are, to a large extent, independent of each other. The former has full control of the College, and the latter of the Farm. Each is expected to work for the other; but neither is responsible for the discharge of his duties to any one but the Commissioner of Agriculture.

THE FARM.

The work on the farm is divided into four departments :—

I. THE FARM DEPARTMENT.
II. THE LIVE STOCK DEPARTMENT.
III. THE MECHANICAL DEPARTMENT.
IV. THE EXPERIMENTAL DEPARTMENT.

For the revenue, expenditure, and entire management of these departments my colleague Professor Brown is alone responsible. He buys and sells as he feels disposed; hires

men, directs the foremen, and does whatever else may seem to him necessary for the accomplishment of the objects he has in view. The experimental work is varied and interesting; and the Live Stock is worthy of special notice on account of the large and valuable additions made to it during the past year.

An able and elaborate account of everything pertaining to the farm will be found in Professor Brown's report at the end of this volume.

THE HORTICULTURAL DEPARTMENT.

This is now one of the heaviest and most important departments of the Institution. It embraces the lawn, kitchen garden, orchard, raspberry plots, vineries, arboretum, greenhouses, and forest-tree clumps—all in charge of Mr. James Forsyth, the foreman of the garden department. Every one knows that a lawn requires a great deal of time and attention during the spring and summer months. When the work is once done you need to begin again and again throughout the whole season from April to November.

A statement of the past year's work and progress in this department is given in part VI. at the end of this report.

THE COLLEGE.

The work in the College is usually spoken of under three heads :—

I.—The Course of Instruction in the College.
II.—The Boarding-house and College Buildings.
III.—The Business Department.

The routine in these so-called departments varies very little from year to year. There are no experiments to describe; no new theories to discuss; nothing very interesting to tell. Hence I shall report briefly under each head, as follows :—

I.—THE COURSE OF INSTRUCTION IN THE COLLEGE.

Before proceeding to the work of 1884, I may give the sessions and terms into which the year is divided, a list of the subjects taught, and the names of the professors and lecturers, with the work allotted to each; after which I shall speak of the year's operations as a whole, and then of each term separately.

The scholastic year commences on the 1st of October and ends on the 31st of August. It is divided into two sessions, and each session into two terms.

Sessions.

Winter Session, embracing the Fall and Winter Terms—1st October to 31st March

Summer Session, embracing the Spring and Summer Terms—16th April to 31st August.

Terms.

Fall Term—1st October to 22nd December.
Winter Term—5th January to 31st March.
Spring Term—16th April to 30th June.
Summer Term—1st July to 31st August.

Subjects Taught.

The regular course of study extends over a period of two years, and includes the following subjects :—

First Year.—Agriculture, Live Stock, Inorganic Chemistry, Organic Chemistry, Geology and Physical Geography, Structural and Physiological Botany, Physiology

Zoology, Veterinary Anatomy, Veterinary Materia Medica, English Literature and Composition, Book-keeping, Arithmetic, and Mensuration.

Second Year.—Agriculture, Live Stock, Arboriculture, Agricultural Chemistry, Meteorology, Systematic and Economic Botany, Entomology, Horticulture, Veterinary Pathology, Veterinary Obstetrics, Veterinary Surgery and Practice, English Literature, Political Economy, Book-keeping, Mechanics, Levelling and Draining.

Method of Instruction.

The method of instruction is chiefly by lectures. Authors are read and studied in connection with the lectures on English Literature, Political Economy, and Systematic Botany; but in the other subjects, text-books are not used in the class-room, except for occasional reference.

THE STAFF.

1. James Mills, M.A., *President.*

English Literature and Political Economy.

2. William Brown, C.E., P.L.S.

Agriculture, Live Stock, and Arboriculture.

3. R. B. Hare, B.A., Ph.D.

Inorganic, Organic, Agricultural, and Analytical Chemistry; Geology; Physical Geography; Meteorology.

4. J. Playfair McMurrich, M.A.

Physiology; Zoology; Structural, Physiological, Systematic, and Economic Botany; Horticulture; Lectures on English.

5. Frederick Grenside, V.S.

Veterinary Anatomy, Pathology, Materia Medica, and Obstetrics; Practical Handling and Judging of Horses.

6. E. L. Hunt, Third Year Undergraduate, University of Toronto.

Arithmetic, Mensuration, Mechanics, Levelling, Surveying, and Book-keeping; Lectures on English.

THE YEAR 1884.

The history of the College during the year 1884 is little else than a record of ordinary exercises and incidents, such as have been reported from year to year. The work in the several departments has gone on as usual, and the progress made has been no less substantial and satisfactory than in any former period.

Attendance.

The following list contains the names of those who have been in attendance during the past year, making a total of 188, and representing not only Ontario but other

Provinces of the Dominion, also Great Britain and Ireland, and two or three foreign countries as follows: from Ontario, 120; England, 26; Quebec, 14; Nova Scotia, 10; New Brunswick, 6; Scotland, 3; Ireland, 2; Prince Edward Island, 2; United States, 2; Jamaica, 1; Turkey, 1; Wales, 1.

As we admit students every six months, the total number on the roll from year to year is considerably larger than those in attendance at any particular time. Of the 188 enrolled in 1884, there are 108 in attendance at the present time.

COLLEGE ROLL.

NAMES.	P. O. ADDRESS.	COUNTY, ETC.
Alderson, A. B	Ottawa	Carleton, Ont.
Alexander, R. C	Wendigo	Middlesex, Ont.
Ashworth, H. L	London	England.
Annand, F. W. C	Halifax	Nova Scotia.
Austin, W. E	Ottawa	Carleton, Ont.
Ballie, W.	Mount Olivet	Jamaica.
Baldwin, E. H	Everitt	Massachusetts, U. S.
Ballantyne, A. W	Stratford	Perth, Ont.
Baker, V. H	Parkstone, Dorset	England.
Beadle, C. D	St. Catharines	Welland, Ont.
Beament, H. J	Ottawa	Carleton, Ont.
Beer, H. H	Charlottetown	Prince Edward Island.
Begbie, E. A	London	England.
Bent, E. H	Belleville	Hastings, Ont.
Birdsall, W. G	Birdsall	Peterborough, Ont.
Black, C. C	Amherst	Nova Scotia.
Black, P. C	Windsor	Nova Scotia.
Brodie, C. J	Bethesda	York, Ont.
Brown, C. R	Norwood	Peterborough, Ont.
Brown, W. J	Fergus	Wellington, Ont.
Brownjohn, N. S	East Lydford, Somerton	England.
Broome, N. H	Henley-on-Thames	England.
Brush, G. H. R	Clifton, Bristol	England.
Buckingham, F. W	Stratford	Perth, Ont.
Burch, E. W	Toronto	York, Ont.
Burwash, H. A	Underwood	Bruce, Ont.
Butler, G. C	London	England.
Byers, W. F	Gananoque	Leeds, Ont.
Calvert, S	Manchester	England.
Campbell, C. A	Toronto	York, Ont.
Campbell, J. L	Clarksburg	Grey, Ont.
Campbell, W. W	Clarksburg	Grey, Ont.
Carlaw, C. M	Warkworth	Northumberland, Ont.
Carpenter, P. A	Collingwood	Simcoe, Ont.
Carr, G. P	Hatherley, Cheltenham	England.
Carr, L. H	Elmhurst, South Croydon	England.
Carden, J	Toronto	York, Ont.
Casswell, A. B	Ingersoll	Oxford, Ont.
Chadsey, W. E	Wellington	Prince Edward, Ont.
Chipman, S. B	Halifax	Nova Scotia.
Climie, W. J	Listowel	Perth, Ont.
Cobb, C	Fingall	Elgin, Ont.
Collins, H. J	York	England.
Corson, G. H	Hamilton	Wentworth, Ont.
Courbarron, F. H	St. Andrew's	Scotland.
Cowley, A. E	Guelph	Wellington, Ont.
Craig, H.	Carsonby	Carleton, Ont.
Cross, E. L	Montreal	Quebec.
Cutting, W. A	Guelph	Wellington, Ont.
Davies, S	Toronto	York, Ont.
Dennis, J. E	London	England.
Denton, E	London	Middlesex, Ont.
Donaldson, H. W	Mobarnane, Tipperary	Ireland.
Dunn, J. G	St. John	New Brunswick.
Eby, J. R	Sebringville	Perth, Ont.

COLLEGE ROLL—*Continued.*

NAMES.	P. O. ADDRESS.	COUNTY, ETC.
Erskine, H. R.	Ottawa	Carleton, Ont.
Etherington, C. B.	Cambridge	England.
Fair, J. L.	South Monaghan	Northumberland, Ont.
Fee, J. J.	Toronto	York, Ont.
Fortune, G. R.	Muir Cambus, Colinsborough, Fyf	Scotland.
Fraser, G	Stratford	Perth, Ont.
Fuller, S. G.	Stratford	Perth, Ont.
Furner, G. H.	Toronto	York, Ont.
Glass, J. M	Montreal	Quebec.
Green, C. W.	Brampton	Peel, Ont.
Greenwell, H.	Orange Park	Florida, U. S.
Greenwood, J. T.	Peterborough	Peterborough, Ont.
Guest, J.	Ballycroy	Simcoe, Ont.
Hague, J. P.	Cobourg	Northumberland, Ont.
Haldimand, E. M.	Montreal	Quebec.
Hall, H. B.	St. John	New Brunswick.
Hannah, J.	Egmondville	Huron, Ont.
Hay, D. D.	Stratford	Perth, Ont.
Hay, W. H.	Stratford	Perth, Ont.
Hayman, J. M.	Aldingham, Ulverston	England.
Henry, J. W.	Thornton	Simcoe, Ont.
Herbert, D. L.	St. Andrew's	Scotland.
Hipwell, J. R.	Thompsonville	Simcoe, Ont.
Holcroft, H. S.	Orillia	Simcoe, Ont.
Holtby, R. M.	Manchester	Ontario, Ont.
Horsman, J. V.	Ingersoll	Oxford, Ont.
Hubbard, W. W.	Burton	New Brunswick.
Idington, P. S.	Stratford	Perth, Ont.
Jeffrey, J. S.	Toronto	York, Ont.
Jamison, W. A.	Thornton	Simcoe, Ont.
Johnston, F. A.	Toronto	York, Ont.
Jones, T. L.	Aberystwith	Wales.
Jones-Bateman, H.	Stratford	Perth, Ont.
Jordan, A. W.	Simonds	New Brunswick.
Keil, C. A.	Chatham	Kent, Ont.
Kemmis, J. H.	Dublin	Ireland.
Kennedy, J. R.	Leeds	England.
Kenyon, J. D.	Thedford	Lambton, Ont.
Kernighan, J. N.	Benmiller	Huron, Ont.
King, J. E.	Middlemarch	Elgin, Ont.
Knott, E.	London	Middlesex, Ont.
Lane, H.	Guelph	Wellington, Ont.
Lane, H. R.	Surbiton, Surrey	England.
Langlois, R. J.	Toronto	York, Ont.
Leech, L. T.	Guelph	Wellington, Ont.
Ledyard, E. D.	Toronto	York, Ont.
Lehmann, A.	Orillia	Simcoe, Ont.
Little, W.	Killyleagh	Simcoe, Ont.
Lloyd, O.	Gormley	York, Ont.
Lobb, E. W. T.	Hamilton	Wentworth, Ont.
Loblaw, W. T.	Elm Grove	Simcoe, Ont.
Macalister, T. G.	Kingston	Frontenac, Ont.
Macdonald, F. J.	Montreal.	Quebec.
Macdonald, W. A.	Stratford.	Perth, Ont.
Macfarlane, A. D.	Wallace	Nova Scotia.
Macpherson, A.	Montreal.	Quebec.
Madge, R. W.	Brucefield	Huron, Ont.
Magee, F. P.	St. John	New Brunswick.
Major, C. H.	Lyn	Leeds, Ont.
Malcolm, G. H.	Guelph.	Wellington, Ont.
Marsh, T. J.	Clarksburg	Grey, Ont.
Mathewson, G.	Montreal	Quebec.
Matson, J. S.	Toronto	York, Ont.
Maude, F.	Bournemouth.	England.
Mavor, L.	Toronto	York, Ont.
McGregor, J.	Colborne	Northumberland, Ont.
McIntyre, D. N.	Paisley	Bruce, Ont.
McKay, J. B.	Stellarton	Nova Scotia.
McKay, J. G.	Underwood	Bruce, Ont.
McLean, R. M.	Ottawa	Carleton, Ont

COLLEGE ROLL—*Concluded.*

NAMES.	P. O. ADDRESS.	COUNTY, ETC.
McPherson, H. A.	Lancaster	Glengarry, Ont.
Meikle, G. W.	Lachute	Quebec.
Menzies, R. M.	Almonte	Lanark, Ont.
Mill, J. S.	Bay of Chaleurs	Quebec.
Miller, J. T.	Norwich	England.
Moberly, G. E.	Erith, Kent	England.
Morris, D. W.	Montreal	Quebec.
Muir, J. B.	North Bruce	Bruce, Ont.
Mytton, R. P., B.A. (Cantab.)	Guelph	Wellington, Ont.
Nairn, J.	Toronto	York, Ont.
Notman, C. R.	Toronto	York, Ont.
O'Doherty, E. J.	Ottawa	Carleton, Ont.
Owen, W. H.	Hull	England.
Page, F. E.	Amherst	Nova Scotia.
Paget, H. A.	Loughborough	England.
Patterson, J. W.	Constantinople	Turkey.
Pethick, W. H.	Charlottetown	Prince Edward Island.
Pattingill, C.	Wellington	Prince Edward, Ont.
Power, R. H.	Barrie	Simcoe, Ont.
Powys, P. C.	Fredericton	New Brunswick.
Pritchard, R. M.	Port Hope	Durham, Ont.
Quinn, E. C.	Orillia	Simcoe, Ont.
Ramsay, A. R.	Montreal	Quebec.
Raynor, T.	Rose Hall	Prince Edward, Ont.
Read, F.	Bobcaygeon	Victoria, Ont.
Reid, P.	Montreal	Quebec.
Ridings, H. L.	Colborne	Northumberland, Ont.
Robinson, B.	Wheatley	Kent, Ont.
Rose, G. M.	Toronto	York, Ont.
Ross, J. H.	New Glasgow	Nova Scotia.
Rowat, J. T.	Hillsdale	Simcoe, Ont.
Routh, P. G.	Toronto	York, Ont.
Saxton, E. A.	Nantwich	England.
Schroeder, R.	Toronto	York, Ont.
Sharp, W.	Killyleagh	Simcoe, Ont.
Sharman, H. B.	Stratford	Perth, Ont.
Sharman, G. C.	Stratford	Perth, Ont.
Skaife, F. W.	Montreal	Quebec.
Slater, H.	Taunton	England.
Smith, A. H.	Simcoe	Norfolk, Ont.
Smith, E. P.	Port Hope	Durham, Ont.
Smith, J.	Guelph	Wellington, Ont.
Spalding, F. J.	Perth	Lanark, Ont.
Stamer, O. F.	Hubbard's Cove	Nova Scotia.
Steers, O.	Ottawa	Carleton, Ont.
Sturge, E.	Ilfracombe	Muskoka, Ont.
Thompson, H.	Cheltenham	England.
Thompson, W. D.	Guelph	Wellington, Ont.
Tucker, H. V.	Toronto	York, Ont.
Vivian, K.	Mohawk	Brant, Ont.
Walsh, E. F.	Luton, Bedford	England.
Walter, J. R.	Barrie	Simcoe, Ont.
Wark, A. E.	Wanstead	Lambton, Ont.
Watts, W. G.	London	England.
Weatherston, D.	Toronto	York, Ont.
Whitehead, E. A.	Montreal	Quebec.
Wiggins, G. C.	Windsor	Nova Scotia.
Williams, M. L.	Leaskdale	Ontario, Ont.
Wilson, T. G.	Hawkstone	Simcoe, Ont.
Wilson, C. J.	Dunkeron	Simcoe, Ont.
Workman, J. R.	Guelph	Wellington, Ont.
Wroughton, T. A.	Montreal	Quebec.
Zavitz, C. A.	Coldstream	Middlesex, Ont.

ANALYSIS OF PRECEDING LIST.

Counties, etc.	Students.	Counties, etc.	Students.
Brant	1	Northumberland	5
Bruce	4	Nova Scotia	10
Carleton (including Ottawa)	8	Ontario	2
Durham	2	Oxford	2
Elgin	2	Peel	1
England	26	Perth	13
Frontenac	1	Peterborough	3
Glengarry	1	Prince Edward County	3
Grey	3	Prince Edward Island	2
Hastings	1	Quebec (Province)	14
Huron	3	Scotland	3
Ireland	2	Simcoe	16
Jamaica	1	Turkey	1
Kent	2	United States	2
Lambton	2	Victoria	1
Lanark	2	Wales	1
Leeds	2	Welland	1
Middlesex	4	Wellington	10
Muskoka	1	Wentworth	2
New Brunswick	6	York (including Toronto)	21
Norfolk	1		
		Total	188

Ontario Students	120
Non-residents	68
Ontario Counties represented	30

For the last three years the County of Simcoe has sent us the largest number of Students. In 1884 it had a representation of 16, which is larger than that of any other county, except York, which includes the city of Toronto. Perth sent 13; Wellington, 10; Carleton (including Ottawa), 8; Northumberland, 5; Bruce, 4; Middlesex, 4; and each of the twenty-two other counties, a smaller number.

Religious Denominations.

Under this head, it may be observed that the College is patronized by members or adherents of nearly all the religious organizations in the Dominion. Last year there were ten denominations represented in our class-lists, as follows:—

Episcopalians	83	Unitarians	2
Presbyterians	49	Friends	1
Methodists	31	Lutherans	1
Baptists	9	Plymouth Brethren	1
Congregationalists	6		
Roman Catholics	5	Total	188

Lectures.

Lectures commenced on the 1st October and continued throughout the first three terms of the scholastic year 1883-84—from the 1st October to the 30th June; during which time all our regular students were engaged in class-room work and manual labour alternately—three hours a day having been spent at the former, and from three and a half to five at the latter. To this were added five hours in two weeks for set-up drill and

gymnastics, under Adjutant Clarke, the very efficient drill instructor of the Ontario and Wellington Field Batteries; so that the daily routine of every student in the regular course, for nine months of the year, was—

Lectures in the College, three hours a day (excepting Saturdays).

Manual Labour, outside, three and a half to five hours a day, according to the season of the year.

Study in room, two hours a day.

Drill and gymnastics, one hour a day (for five days of every alternate week).

While the first year students were at lectures in the College, the second year students were employed outside. Those who went out to work in the forenoon, came in for lectures in the afternoon, and *vice versa*. Thus the theoretical work inside and the practical work outside went on simultaneously during the Fall, Winter and Spring Terms. The Summer Term (1st July to 31st August) was devoted entirely to work in the outside departments—the farm, the live stock, the garden, the carpenter-shop and the experimental department.

In order to place systematically and clearly before the readers of this report an outline of the literary work done in the Institution, I beg to submit the following syllabus of lectures delivered by the professors in the several departments and sub-departments of study during the scholastic year, commencing on the 1st October, 1883, and ending on the 31st August, 1884 :—

Outline of Class-room Work.

Scholastic Year 1883–84.

(*1st October to 30th June.*)

FIRST YEAR.

Fall Term—1st October to 22nd December.

Department 1.—Agriculture.

Introductory.—Ancient and modern agriculture; agricultural literature; arts and sciences affecting agriculture; different kinds of farming.

Reclamation of Land.—Clearing, stumping, stoning, fallowing, etc.

Soils.—Origin and distribution of soil; natural conditions of soil and plant; examination and classification of soils; physical and chemical properties of each kind.

Rotation in Cropping.—Importance and necessity of rotation; principles underlying it; rotations suitable to different kinds of soil; examination and criticism of different systems of rotation.

Buildings.—Location of house, barn and stables; framing a building; stables for horses, sheep and cattle; arrangement of farm buildings.

Implements and Machinery.—Principles in construction of implements and machinery; points to be aimed at; classification, examination, and description of the same.

Miscellaneous.—Roads, lanes, fences, wells, etc.

Department 2.—Natural Science.

Chemical Physics.—Matter, accessory and essential properties of matter; attraction; various kinds of attraction—cohesion, adhesion, capillary, electrical, and chemical; specific gravity; weights and measures; heat, measurement of heat, thermometers, pyrometers, specific and latent heat; sources, nature and laws of light; spectrum analysis.

Inorganic Chemistry.—Scope of subject; elementary and compound substances; chemical affinity; symbols; nomenclature; combining proportions by weight and by

volume; atomic theory; atomicity and basicity; oxygen and hydrogen; water—its natural functions, decomposition and impurities; nitrogen; the atmosphere—its composition, uses and impurities; ammonia—its sources and uses; nitric acid and its connection with plants; carbon; combustion; carbonic acid and its relation to the animal and vegetable kingdom; sulphur and its compounds; manufacture and uses of sulphuric acid; phosphorus; phosphoric acid and its importance in agriculture; chlorine—its bleaching properties; bromine; iodine; silicon; potassium; calcium; magnesium; iron, etc.

Human Physiology.—Evidences of life; elementary tissues, connective tissues, adipoise tissue, cartilage, bone; alimentary system, teeth, salivary glands, stomach (structure and functions of), intestines, liver and pancreas; foods, digestion of an ordinary meal, dieting; respiratory system; ventilation; excretory system; functions and structure of the kidneys and skin; clothing; bathing; nervous system, general working of the system, structure and working of the brain, eye, ear and other sense organs; locomotory system, structure and physiology of the muscles; walking; running; exercise; hygiene—draining; thirty-seven motive diseases, contamination of water, etc.

Department 3.—Veterinary Science.

Anatomy and Physiology of the horse, ox, sheep and pig; osseous system, muscular system, syndesmology, plantar system, and odontology.

Department 4.—English.

Composition.—The sentence, paragraph, and period; capitals and punctuation. Exercises in composition.

English Classics.—Critical study of Washinton Irving's "Sketch Book."

Department 5.—Mathematics.

Arithmetic.—Review of subject, with special reference to farm accounts. Interest, discount, stocks, and partnership.

Mental Arithmetic.—Calculations in simple rules.

FIRST YEAR—(Continued).

Winter Term—5th January to 31st March.

Department 1.—Agriculture.

Breeding, rearing, and feeding of animals. Points to be considered in deciding what kind of animals to keep.

Horses.—Different breeds of horses, and leading characteristics of each: type of horse required for farm work; breeding, feeding and general management.

Cattle.—History and characteristics of Shorthorns, Herefords, Polled Angus, Ayrshires, Jerseys, Devons. Galloways, etc.; grade cattle; milch cows—points of a good milch cow; breeding generally, cross-breeding, in-and-in breeding: pedigree.

Sheep.—Breeds of sheep generally considered; long-woolled sheep; medium-woolled sheep; short-woolled sheep; crosses between different breeds compared: texture: quality, quantity. and uses of different kinds of wool.

Swine.—Characteristics of various breeds; management of sows; stores; bacon-curing, etc.

Department 2.—Natural Science.

Inorganic Chemistry.—Subject continued from Fall Term.

Organic Chemistry.—Constitution of organic compounds; alcohols, aldehydes, acids, and their derivatives; formic, acetic, oxalic, tartaric, citric, lactic, malic, uric and tannic acids. Constitution of oils and fats—saponification; sugars, starch, cellulose; albuminoids, or flesh formers and their allies; essential oils; alkaloids—morphine and quinine; classification of organic compounds.

Zoology.—Definition of terms morphology, physiology, embryology, etc.; distinctions between animate and inanimate objects; life distinctions between plants and animals; definition of general terms; development; basis of classification; characters of the various classes, with a more detailed and special account of the porifera and sponges; actinozoa, including the formation of coral islands; trematoda, including the "liver-fluke"; cestoda, with a description of the life-history of the common tape-worm, and of the form causing "staggers" in sheep; nematoda, including thread worms, trichina, wheat anguillula, cause of gapes in chickens, etc.; acanthocephala; oligochæta—formation of mould by earth-worms; hirudinea lamellibranchiata, including edible molluscs and pearl fisheries; gasteropoda; cephalopoda; arthropoda, with special attention to structure and habits of the arachnida, acarina and insecta; general structure of the vertebrata; distinctions between vertebrata and invertebrata; pisces; amphibia; reptilia—treating especially of the snakes and turtles; aves—habits and appearance of the more important insectivorous birds; mammalia, with special attention to the orders containing useful and domestic animals; anthropomorpha; man.

Lectures illustrated by specimens, diagrams, and drawings on the blackboard.

Department 3.—Veterinary Science.

Veterinary Anatomy.—Anatomy and physiology of the horse, ox, sheep, and pig—digestive system, circulatory system, respiratory system, urinary system, nervous system, sensitive system, generative system, tugumental system.

Department 4.—English.

Composition.—Exercises continued; abstracts of speeches and essays; letter writing.

English Classics.—Committing to memory and critical study of Scott's "Lady of the Lake," Cantos V. & VI.

Department 5.—Mathematics and Book-keeping.

Arithmetic.—Equation of payments; percentage; profit and loss; stocks; partnership; exchange.

Book-keeping.—Business forms and correspondence: general farm accounts; dairy, field and garden accounts.

FIRST YEAR—(Continued).

Spring Term—16th April to 30th June.

Department 1.—Agriculture.

Preparation of Soil.—Modes of preparation for different crops, as wheat, barley, oats, rye, pease, maize; modes suited to various kinds of soil.

Seeds and Sowing.—Testing the quality of seed; changing seed; quantity of seed per acre; methods of sowing.

Improvement of Lands.—Ordinary cultivation; subsoiling in some cases: fallowing; draining; manuring. Farm-yard manure and management of the same; the properties, application and uses of artificial manures—lime, plaster, salt, bone-dust, superphosphates, etc.

Roots.—Cultivation of roots and tubers—turnips, mangolds, carrots, potatoes: effects of each kind on soil.

Green Fodders.—Tares, lucerne, sanfoin, prickley comfrey, clovers, grasses; the cultivation and management most appropriate for each.

Management of pastures: harvesting and preparing crops for markets or one's own use; crops for current year examined.

Department 2.—Natural Science.

Geology.—Connection between geology and agriculture; classification of rocks—their origin and mode of formation, changes which they have undergone after deposition; fossils—their origin, inferences from their presence in rocks; geological periods and the characteristics of each. Geology of Canada, with special reference to the nature and economic value of the rock deposits: glacial period and its influence in the formation of soil. Lectures illustrated by numerous diagrams and specimens.

Physical Geography.—Scope of the subject—earth's place in space, external and internal conditions, atmosphere, ocean, land; superficial configuration of Ontario: theory of springs: classification of lakes: zones of animal and vegetable life.

Botany.—Derivation and definition of word; definition of morphology; vegetable physiology; botanical geography; palæophytology; history of the growth of the science: structure of plant-cells as individuals, cells aggregated into tissues; fibro vasculas bundles; roots—structure and physiology—stems; structure in exogens and endogens, growth of stem, branching, varieties of stem; leaves—structure, chlorophyll, stomata, hairs, shape, venation, compound leaves, phyllotaxis; flower—arrangement, structure, colyx, corolla, stamens, pistils, foliar nature of parts, fertilization, natural provisions for cross-fertilization, development: fruit—classification of fruits; germination of seeds. Physiology—proximate principles of plants; nutrition; metastasis: insectivorous plants; respiration; motion; heliotropism and geotropism; irritability; influence of temperature.

Lectures illustrated by specimens, diagrams and drawings on the blackboard.

Department 3.—Veterinary Science.

Materia Medica.—The preparation, doses, action, and uses of about one hundred of the principal medicines used in veterinary practice.

Department 4.—English.

English Classics.—Committing to memory and critical study of Wordsworth's "Excursion," Book I.

Department 5.—Mathematics.

Mensuration.—Mensuration of surfaces—the square, rectangle, triangle, trapezoid, regular polygon, circle. Special application to the measurement of lumber. Mensuration of solids; special application to the measurement of timber, earth, etc.

SECOND YEAR.

Fall Term—1st October to 22nd December.

Department 1.—Agriculture.

Experimental Plots.—The results of last season's experiments with wheat, oats, barley, peas, grasses, clovers, roots, etc.; liability to disease; effects of various manures on different crops; growth of plants, etc.

Farm Management.—Detailed account of the treatment of each field; results from different kinds of seed and soil; effects of manure; harvesting, storing, and threshing of crops; fall ploughing; subsoiling, etc.

Stock Feeding.—Value of feeding materials; estimate for winter keep of live stock; housing, feeding, and fattening; points to be observed in selecting animals for fattening; feeding experiments; common diseases of animals; management of animals on pasture; value of green fodder. Dairy management and cheese-making.

Department 2.—Natural Science.

Agricultural Chemistry.—Connection between chemistry and agriculture; the various compounds which enter into the composition of the bodies of animals: the chemical changes which food undergoes during digestion; chemical changes which occur during the decomposition of the bodies of animals at death; the functions of animals and plants contrasted; food of plants, and whence derived; origin and nature of soils; classification of soils; causes of unproductiveness in soil and how detected; composition of different plants in relation to the soils upon which they grow; rotation of crops; preservation, development, and renovation of soils; manures classified, the chemical action of manures on different soils; chemical theories in reference to the action of superphosphates; the action of lime in the decomposition of double silicates; feeding of animals; classification of foods; chemical results in the use of different foods; points necessary to be considered in order to obtain the full value of artificial and natural foods.

Meteorology.—Relation of meteorology to agriculture: composition and movements of the atmosphere; nature and manipulation of the barometer, its importance in forecasting the weather; temperature, description of the various instruments used in its measurement and how to use them; solar and terrestrial radiation; the influence of forests on climate; mists, fogs, clouds, rain, hail, and snow; description of instruments used in measuring rain and snow-fall; velocity and direction of wind; causes affecting climate; influence of climate on vegetation.

Department 3.—Veterinary Science.

Pathology.—Osseous System.—Nature, causes, symptoms, and treatment of diseases of bone, as splint, spavin, ringbone, etc.

Muscular System.—Nature, causes, and treatment of flesh wounds, etc.

Syndesmology.—Nature, causes, symptoms, and treatment of bog-spavin, curb, and other diseases of the joints.

Plantar System.—Nature, causes, symptoms, and treatment of corns, sand-crack, founder, and other diseases of the foot.

Odontology.—Diseases of the teeth and treatment of the same.

Department 4.—English.

English Classics.—Critical study of Shakespeare's "Julius Cæsar."

Department 5.—Mathematics.

Dynamics.—Motion, forces producing motion, momentum; work; the simple machines, etc.

Drainage.—General principles; how to lay out a system of drains; how, where, and when to commence draining; depth of drains and distances apart; grades; cost of draining.

SECOND YEAR—(Continued).

Winter Term—5th January to 31st March.

Department 1.—Agriculture.

Laws affecting agriculture; capital required in farming; laying out of farm; general management and economy; measuring, levelling, and draining; permanent pastures; inventory and valuation; cost of production; buying, selling, and marketing; field experiments.

Management of cattle, sheep, and other animals in winter; breeding generally considered; special management of ewes before, during, and after the season of lambing; treatment of other animals in parturition; rearing of lambs, calves, and pigs; washing and dipping sheep, etc., etc.

Arboriculture.—Planting and attendance of forest trees, shade trees, etc.

Department 2.—Natural Science.

Agricultural Chemistry.—Subject continued from Fall Term.

Entomology.—Importance of the study to agriculturists; natural checks to insect ravages; system of nomenclature; anatomy of insects—appendages, respiration, nutritive and nervous systems; metamorphosis; classification; beneficial and injurious insects—their habits and the best means of checking the ravages of the latter—lectures illustrated by specimens.

Department 3.—Veterinary Science.

Digestive System.—Nature, causes, symptoms, and treatment of spasmodic and flatulent colic, inflammation of the bowels, acute indigestion, tympanitis in cattle impaction of the rumen, and many other common diseases.

Circulatory System.—Description of the diseases of the heart and blood.

Respiratory System.—Nature, causes, symptoms, and treatment of catarrh, nasal-gleet, roaring, bronchitis; pleurisy, inflammation of the lungs, etc.

Urinary System.—Nature, causes, symptoms, and treatment of inflammation of the kidneys, etc.

Nervous System.—Nature, causes, symptoms, and treatment of lock-jaw, string-halt, etc.

Sensitive System.—Nature, causes, symptoms, and treatment of the diseases of the eye and ear.

Generative System.—Nature, causes, symptoms, and treatment of abortion, milk-fever, etc.

Tegumental System.—Nature, causes, symptoms, and treatment of scratches, sallenders, mallenders, parasites, and other diseases of the skin.

Department 4.—English Literature and Political Economy.

English Classics.—The critical study of Shakespeare's "King Richard the Second."

Political Economy.—Utility; production of wealth—land, labour, capital; division of labour; distribution of wealth; wages; trades-unions; co-operation; money; credit, credit cycles; functions of government; taxation, etc.

Department 5.—Mathematics.

Statics.—Theory of equilibrium; composition and resolution of forces; parallelogram of forces, moments; centre of gravity, etc.

Hydrastatics.—Transmission of pressure; the hydraulic press; specific gravity; density; pumps, siphons, etc.

Book-keeping.—Review of previous work.

Spring Term.—16th April to 30th June.

Department 1.—Agriculture.

Review of all past lectures with special drill on outside work. Reasons for management, etc.

Department 2.—Natural Science.

Practical and Analytical Chemistry.—Chemical manipulation; preparation of common gases and reagents; operations in analysis—solution, filtration, precipitation, evaporation, distillation, sublimation, ignition, and the use of the blow-pipe; testing of substances by reagents; impurities in water; adulteration in foods and artificial manures; injurious substances in soils.

Quantitative analysis of soils, manures and farm produce.

Systematic and Economic Botany.—Definition of the terms; importance of classification; requisites of good classification; classification of plants, character of the more important orders; description of source and preparation of the various economic products obtained from plants. The course was illustrated by a large collection of plants and also by practical field-work, in which various plants were examined, dissected, and classified by the students.

Horticulture.—Ontario as a fruit-growing country; influence of climate, soil, topography; source of our commoner fruits; improvement by selection; Van Mon's theory; cross fertilization—physiology, extent to which it can be carried; duration of cultivated varieties; grafting and budding—objects of operations, methods, extent to which operations can be carried; influence of graft on stocks; layering; propagation by suckers; propagation by pieces of root; pruning—objects of operation, physiology, root-pruning, other methods of producing fruitfulness; training—objects of operation, methods; transplanting—physiology, time of year to be practised, operation, mulching, manuring, laying in by the heels; winter care of plants; diseases of plants—produced by changes in the external conditions of plants, poisonous gases in the atmosphere or soil; growth of parasitic plants; injuries from insects; points to be considered in the selection of trees.

Department 3.—Veterinary Science.

Materia Medica.—The preparation, actions, uses, and doses of medicines—continued from the spring term of the first year. Lectures on special subjects such as pleuro-pneumonia, the rinderpest, tuberculosis, etc.

Veterinary Obstetrics.—Description of fœtal coverings. Phenomena in connection with puberty, œstrum, gestation, sterility, abortion, normal and abnormal parturition. Diseases incidental to pregnant and parturient animals.

Department 4.—English.

English Classics.—The critical study of Milton's "L'Allegro" and "Il Penseroso."

Department 5.—Mathematics.

Surveying and Levelling.—Fields surveyed with chain and cross-staff; measurements of heights.

Road-Making.—Determination of proper slopes; shape of road-bed; drainage of roads; friction on different roads; various road coverings; the maintenance of roads; cost, etc.

Having thus briefly outlined the work of the year as a whole, I may proceed to report more at length on the work of each term separately.

The scholastic year began on the 1st October, 1883, and ended on the 31st August, 1884. The first term of the year, *i.e.*, the Fall Term, having been treated of in our report of 1883, I shall begin with the

Winter Term, 1884.

5th January to 31st March.

The students in attendance were those who had entered at the beginning of the Fall Term in October, 1882, or previous to that date—109 in number; and the work was to a large extent a continuation of the subjects begun at that time.

Class-Room Work.

The term was ten weeks and two days long, exclusive of the time spent on the Easter Examinations; and the lectures delivered were as follows:—

First Year.—	30	lectures,	one hour each,	on Agriculture and Live Stock.
	32	"	"	" Chemistry.
	21	"	"	" Zoology.
	21	"	"	" Veterinary Anatomy.
	20	"	"	" English Literature.
	10	"	"	" English Composition.
	29	"	"	" Arithmetic and Book-keeping.
	163			

Second Year.—	15	lectures,	one hour each,	on Agriculture and Live Stock.
	5	"	"	" Arboriculture.
	31	"	"	" Agricultural Chemistry.
	11	"	"	" Entomology.
	21	"	"	" Political Economy.
	11	"	"	" English Literature.
	9	"	"	" English Composition.
	21	"	"	" Veterinary Pathology.
	21	"	"	" Statics, Hydrostatics, and Book-keeping.
	145			

Also one hour a week was spent by the second year students in the practical handling and judging of horses, under the supervision of Dr. Grenside, our Veterinary Surgeon.

Department 1.—Agriculture and Live Stock.

In this department, the first year students devoted three hours a week to the study of the characteristic points and peculiarities of the leading breeds of sheep, pigs, and horses, while the second year men spent six hours on general agriculture, five hours on arboriculture, and eleven hours in handling judging, and comparing the different breeds and varieties of sheep and cattle. Under the last head, the method of instruction was the same as usual, and may be described as follows:—

A specimen of some kind, say a Shorthorn steer, is brought into the lecture-room, which is so arranged with galleried seats that every student while in his place taking notes has a full view of the lecturer and all his movements. The different parts of the animal are first pointed out and named, such for example, as the brisket, crops, loins, twist, etc. After this has been several times repeated, the students are called on to point out and name the several parts in presence of their class-mates. The lecturer then criticises the animal more closely, indicating the strong and the weak points, and giving his estimate of it as a whole. Afterwards several animals of different breeds are brought in together, and he proceeds to describe and illustrate what are considered the good points of the animals for beef and milk, comparing and contrasting Shorthorns, Herefords, Aberdeen Polls, Devons, Galloways, Ayrshires, and Jerseys—breed with breed in regard

to shape of frame, quality of flesh, feeding, beefing, milking, hardiness, and other properties. Much the same course is pursued with the different breeds of sheep. Cotswolds, Leicesters, Southdowns, Oxford Downs, Shropshire Downs, Hampshire Downs, and Merinos are frequently examined in the class-room, and compared with one another as regards carcass, constitution, wool, mutton, feeding, hardiness, etc. Thus the instruction in this department is made in the strictest sense definite and practical.

Department 2.—Natural Science.

The work of the Winter Term in the department of Natural Science embraces Inorganic Chemistry, Organic Chemistry, Zoology, Agricultural Chemistry, and Entomology.

In the winter of 1884, our first year students spent a few weeks in completing the Inorganic Chemistry which they had studied throughout the Fall Term, and then took up the more difficult, but no less interesting subject of Organic Chemistry. They had a full course of lectures from Dr. Hare on the most important organic compounds, and gave special attention to the nature and sources of starch, sugar, oils, fats, the albuminoids, or flesh-formers, and other substances which have a more or less direct bearing on general agriculture and the feeding of animals. At the same time they attended Professor McMurrich's lectures on Zoology, to get a general knowledge of the animal kingdom as a whole, and thereby fit themselves for becoming more intelligent and appreciative students of particular parts of that kingdom under the heads of Entomology and Veterinary Science.

The second year men were at the same time engaged in the study of Agricultural Chemistry and Entomology. During the previous term they had learned the relation of Chemistry to Agriculture and stock-raising; and with this knowledge they now proceeded to study the nature and sources of plant food, the origin and properties of the different kinds of soil, their preservation and renovation, the causes of unproductiveness, the properties and uses of various manures, the chemical composition of a number of fodders, and the nutritive value of each. On subjects such as these they spent three hours a week; and at the same time took a course of lectures delivered by the Professor of Biology, on the marks, habits, and depredations of the various insects that infest our crops and fruits, seeking especially to learn the best means of checking and preventing their ravages.

A detailed account of the work in the sub-department of Chemistry, including both class-room and experimental work, will be found in Dr. Hare's report in part II. of this volume.

Department 3.—Veterinary Science.

As will be seen from the syllabus of lectures given on a previous page, the Winter Term in the Veterinary Department is devoted to the anatomy, physiology, and pathology of the horse, ox, sheep, and pig. The lectures to the first year students were on the anatomy and physiology of these animals, and were illustrated by the complete skeleton of a horse and portions of other skeletons. The second year lectures discussed various diseases and their treatment, especially the common ailments of the horse, as spavin, ringbone, curb, founder, inflammation, and such like; and, for the purpose of making the instruction thoroughly practical, horses were regularly brought into the class-room and examined, first by the professor in the presence of the class, and afterwards by the students themselves. In this way the veterinary surgeon was each day enabled to see whether his lectures were really understood or not by those to whom they were delivered.

The work of the year in this department embraced not merely the lectures in the College, but also the medical treatment of all the stock kept on the farm. This, of course, gave the Professor of Veterinary Science a good deal of extra work; but it afforded him an opportunity of observing carefully the action of one or two diseases to which stock in this country is more or less liable.

See Dr. Grenside's report in part III.

Department 4.—English Literature and Political Economy.

We spend no time on any foreign language; and not much on anything which has not a direct bearing on the duties of a Canadian farmer. We give all the subjects of the programme a fair share of attention, but lay most stress on Agriculture, Live Stock, Chemistry, and Veterinary Science. Our primary aim is to make good practical farmers; but we are not forgetful of the fact that it is no less important to make good citizens—to add some of the graces and refining influences of a broader culture, and thereby fit our students for filling positions of trust, influence, and responsibility in Church and State.

The kind of an education which enables a man to make the most of his abilities in the social circle, the municipality, or the political arena, is not got by confining the attention to any single subject, but by reading, writing, and conversation, with the sharpening and refining influence of many studies. At the same time, I think there is nothing else which contributes so much to that end, and tends so directly to create and foster a taste for reading, as frequent practice in composition and the critical reading of selections from classic authors; and for this reason we devote all the time we can spare to exercises of that kind.

During the Winter Term of 1884, the first year students spent one hour a week on exercises in composition, and two hours in the critical study of the fifth and sixth Cantos of Scott's "Lady of the Lake." The second year men read Shakespeare's "Julius Cæsar," and a part of "King Richard the Second," and committed to memory the best passages in each. They also devoted two hours a week to the discussion of such questions as are usually considered under the head of Political Economy—land, labour, capital, the production and distribution of wealth, strikes, lock-outs, etc.

Department 5.—Mathematics and Book-keeping.

The work under this head, as I said once before, presents certain difficulties which are likely to remain for some time to come. First of all, we cannot devote much time to the department; and in the next place our students generally have a very imperfect knowledge of the elementary principles of Mathematics when they come to us. Consequently, we have not as yet undertaken anything beyond Arithmetic, Mensuration, elementary Mechanics, and the less difficult operations in Levelling and Surveying. Even in these few branches, we find it necessary to lay most stress on what is likely to have frequent application in the ordinary business of a farming community. The Book-keeping also is of a special kind. It might be called Farm Book-keeping—farm, garden, field, and dairy accounts.

The work of last winter differed very little from that of the winter before; hence I shall not spend time in describing it, but simply refer to the Examination papers on Arithmetic, Statics, and Book-keeping in Appendix 2, and to the Class-Lists in Appendix 3.

Special Live Stock and Veterinary Class.

In the fall of 1883, as in 1882, we organized a Special Class for the benefit of young men who did not wish to take the regular course, but were anxious to devote a few months to the study of Live Stock and Veterinary Science.

The members of this class were to spend the half of each day in handling and looking after cattle, sheep, pigs, and horses, and the remainder of the time in studying lectures and books which treat of these animals in health and disease.

The difficulty in the way of carrying out this proposal was the fact that the specials, by spending all their time with the live stock, were in danger of interfering with the practice of the regular students in that department, and, for that reason, it was arranged that the regular students should have the same privileges in the live stock department as if there were no specials; and that the work of the specials, being for their own benefit rather than for the performance of remunerative labour, should not be paid for by the Institution.

In the fall of 1883, sixteen applied for admission to the class and fifteen were accepted. They did much better work than the previous class, and made a fair record at the Easter Examinations. Seven were gazetted as having passed in all the subjects, and one, Mr. H. B. Sharman of Stratford, was ranked first class in every branch.

Easter Examinations.

The Easter Examinations were, as usual, on the class-room work of the Winter Session (1st October to 31st March). They commenced on the 17th and ended on the 27th March. The questions set in the different subjects will be found in the first part of Appendix 2. Most of the papers were difficult enough to differentiate the best students, while they gave all honest workers a fair chance to pass.

Oral examinations on live stock were conducted as usual. Cattle, sheep, and horses were taken into the Veterinary Class-room on successive days; and the students, being admitted one at a time, were required to handle and judge the animals submitted, as if they were in a show-ring.

Examiners.

The examinations were conducted by the Professors of the College and the following outside gentlemen, to whom we are specially indebted and beg to return our sincere thanks :—

John Hobson, Esq., Mossboro', (Wellington) ..... Stock-Breeding.
Charles Drury, M.P.P., Crown Hill, (Simcoe) ..... The Feeding of Animals.
S. C. Smoke, B.A., Toronto ..... English Literature.
Wm. Douglas, B.A., Toronto ..... Political Economy.

Honours.

A complete record of all the candidates, regular and special, will be found in the Class Lists (Appendix 3)—not only those who passed or won honours, but also those who failed. A fair proportion got first-class honours in individual subjects, and a few gained the rank of first-class men in one or more of the five departments, and received honour certificates, as follows :

Honour Certificates.

Granted on the Results of the Easter Examinations, 1884.

First Year.

Agriculture and Live Stock—

1. McKay, J. B ..... Stellarton, Nova Scotia.
2. Raynor, T ..... Rose Hall (Prince Edward), Ont.
3. Muir, J. B ..... North Bruce (Bruce), Ont.

Natural Science—

1. McKay, J. B ..... Stellarton, Nova Scotia.
2. Raynor, T ..... Rose Hall (Prince Edward), Ont.
3. Ridings, H. L ..... Grafton (Northumberland), Ont.
4. { Macpherson, A ..... Montreal.
   { Muir, J. B ..... North Bruce (Bruce), Ont.
6. Butler, G. C ..... London, England.

Veterinary Science—

1. McKay, J. B ..... Stellarton, Nova Scotia.
2. Muir, J. B ..... North Bruce, Ont.
3. Ridings, H. L ..... Grafton, Ont.
4. Raynor, T ..... Rose Hall, Ont.
5. Butler, G. C ..... London, England.

English Literature and Composition—

1. Raynor, T ..... Rose Hall, Ont.
2. Ridings, H. L ..... Grafton, Ont.
3. Kemmis, J ..... Dublin, Ireland.
4. Butler, G. C ..... London, England.
5. McKay, J. B ..... Stellarton, N. S.
6. Muir, J. B ..... North Bruce, Ont.

Mathematics and Book-keeping—

1. Raynor, T ..... Rose Hall, Ont.
2. Ridings, H. L ..... Grafton, Ont.
3. McKay, J. B ..... Stellarton, N. S.

Second Year.

Agriculture and Live Stock—

1. Ballantyne, A. W ..... Stratford (Perth), Ont.
2. Carpenter, P. A ..... Collingwood (Simcoe), Ont.

Natural Science—

1. Carpenter, P. A ..... Collingwood, Ont.
2. Slater, H ..... Taunton, England.
3. Wark, A. E ..... Wanstead (Lambton), Ont.
4. Powys, P. C ..... Fredericton, N. B.
5. Ballantyne, A. W ..... Stratford, Ont.
6. Lehmann, A ..... Orillia, Ont.

Veterinary Science—

1. Carpenter, P. A ..... Collingwood, Ont.
2. { Ballantyne, A. W ..... Stratford, Ont.
   { Lehmann, A ..... Orillia, Ont.
4. Slater, H ..... Taunton, England.
5. Powys, P. C ..... Fredericton, N. B.

English Literature and Political Economy—

1. Carpenter, P. A ..... Collingwood, Ont.
2. Powys, P. C ..... Fredericton, N. B.
3. Tucker, H. V ..... Toronto, Ont.

Mathematics and Book-keeping—

1. Lehmann, A ..... Orillia, Ont.
1. Carpenter, P. A ..... Collingwood, Ont.

Special Class.

First-Class Men—

1. H. B. Sharman ..... Stratford, Ont.
2. W. W. Hubbard ..... Burton, N. B.

Spring Term.

(16th April to 30th June.)

All specialists and generally some others leave at Easter. Hence we have been accustomed to hold two entrance examinations in the year—one on the 1st of October, and the other on the 16th of April. The number admitted in April of last year was 26. They were examined on the 17th and 18th; and lectures commenced on Monday, the 21st.

Work in Outside Departments.

As the Spring Term affords special opportunities for practise in the outside departments, the class-room work did not receive quite so much attention as during the Winter Term. Every one had to attend lectures three hours a day as usual; but a little less time was occupied in study than during the winter months. From four and a half to five hours a day were devoted to practical work outside, a part of which was spent with the instructor, and the balance with the foremen of the several departments. By the instructor, I mean one of our men who spends most of his time in teaching the students how to perform such operations as they require to understand before taking charge of farms on their own responsibility; such as harnessing and driving horses, ploughing, sowing, harrowing, rolling, mowing with the scythe, driving a mower, and such like. The young men are sent to him in rotation, according to our knowledge of what they require; and while under his instruction they get no wages. Hence they are generally anxious to learn as quickly as possible, so that they may be in a position to claim the promised pay for their work.

Class-room Work.

While particular prominence was given to practical work outside, the theoretical work inside was by no means neglected. In the department of Agriculture the cultivation of the various crops was taken up; seeds were examined and judged; the different modes of sowing discussed and exemplified; the principles underlying rotation, and the rotations suitable to different soils, climates, and circumstances were explained; also the improvement of land by ordinary cultivation, subsoiling, fallowing, manuring, and laying down to grass. At the same time, under the head of Practical and Analytical Chemistry, the second year men were employed from three to four hours a week in the laboratory, examining and testing waters, soils, foods, manures, etc., so far as our limited appliances would allow. In that way they were led to see the practical value of what they had already learned in Inorganic, Organic, and Agricultural Chemistry. They had opportunities for putting their knowledge to a practical test. Hence most of them entered cheerfully and heartily into the work. In systematic and Economic Botany they received lectures on the general classification of plants, and studied more particularly those orders which contain the most important agricultural and economic plants—cereals, grasses, roots, and plants used in the manufacture of fabrics, oils, medicines, and other articles of commerce. At the same time the first year students were attending lectures on Geology and Botany. In the former they learned something of the formation, composition, and character of the soils found in the country; in the latter they studied the plant in relation to the soil and the atmosphere—its form, food, functions, and diseases, giving special attention to hybridization, the different modes of propagation, and such diseases as smut, rust, mildew, etc. The lectures of the class-room were illustrated and applied to some extent by the gardener while the students were at work with him in the greenhouses, gardens, and lawns. In the departments of Veterinary Science, English, and Mathematics, the work was carried on as during the Winter Term.

The first-year students had twenty-three lectures on the preparation, action, and doses of about fifty kinds of medicine commonly used in veterinary practice; read Wordsworth's "Excursion," Bk. I.; wrote impromptu compositions; and gave some time to th study of Mensuration. During the same period, the second-year men had lectures on veterinary science, including twenty-five or thirty important medicines and the therapeutics of the veterinary art; read critically and committed to memory Milton's "L'Allegro," and "Il Penseroso;" gave some attention to road-making; and went twice a week into the fields with a master to apply, as far as possible, what had previously been taught them under the heads of levelling, draining, and elementary surveying.

Midsummer Examinations.

The midsummer examinations on the work of the Spring Term (16th April to 30th June) began on the 19th and ended on the 21st June; and immediately thereafter a number of the students went into

Camp at Guelph,

And remained in charge of Lieutenant-Colonel Macdonald, Commander of the First Provisional Brigade of Field Artillery, for ten days, at the end of which time they returned for the

Closing Exercises of the College,

The Granting of Diplomas and Presentation of Medals and Prizes.

These exercises took place on the 3rd July, and were attended by the Hon. A. M. Ross, Commissioner of Agriculture, James Innes, M.P., James Laidlaw, M.P.P., and a number of other visitors from Guelph and elsewhere, who came to witness the presentation of the diplomas, medals, and prizes that had been granted or awarded on the results of the year's work.

Eleven young men, having completed the regular course of study and apprenticeship, were presented by the President of the College for diplomas, which were granted by the Hon. A. M. Ross, Commissioner of Agriculture.

Medals and Medallists.

Three medals are granted annually to the graduating students who stand respectively first, second and third in general proficiency, provided they reach a fixed standard in both the theoretical and the practical work.

Last year the competition was keen; and the results, as regards the first four on the list, may be stated as follows:—

(1) Written Examinations at Easter.	(2) Written Examinations at Mid-summer.	(3) Practical Examinations at Mid-summer.
1. Carpenter, P. A.	1. Carpenter.	1. Wark.
2. Slater, H.	2. Slater.	2. Lehmann. / Carpenter.
3. Lehmann, A.	3. Lehmann.	
4. Wark, A. E.	4. Wark.	4. Slater.

General Proficiency.

1. Carpenter, P. A. (Gold Medallist)..... Collingwood, Simcoe, Ont.
2. Slater, H. (First Silver Medallist)..... Taunton, England,
3. Lehmann, A. (Second Silver Medallist)..... Orillia, Simcoe, Ont.
4. Wark, A. E. ..... Wanstead, Lambton, Ont.

The gold medal was presented by the Honourable the Commissioner of Agriculture; the first silver medal, by James Innes, M.P.; and the second silver medal, by James Laidlaw, M.P.P.

The other honours and prizes were distributed as follows:—

Honour Certificates.

Midsummer Examinations, 1884.

First Year.

Agriculture and Live Stock—

1. Raynor, T. .....Rose Hall, Ont.
2. Muir, J. B. .....North Bruce, Ont.
3. Ridings, H. L. .....Grafton, Ont.
4. McIntyre, D. N. .....Paisley, Ont.

Natural Science—

1. Raynor, T. ..... Rose Hall, Ont.
2. McPherson, A ..... Montreal.
3. Muir, J. B. ..... North Bruce, Ont.
4. Ridings, H. L ..... Grafton, Ont.
5. McIntyre, D. M. ..... Paisley, Ont.
6. Owen, W. H. ..... England.

English Literature and Composition—

1. Raynor, T. ..... Rose Hall, Ont.

Veterinary Science—

1. Raynor, T ..... Rose Hall, Ont.
2. Muir, J. B. ..... North Bruce, Ont.
3. Ridings, H. L ..... Grafton, Ont.
4. Alexander, R. C ..... Wendigo, Ont.

Mathematics—

1. Raynor, T. ..... Rose Hall, Ont.
2. Ridings, H. L ..... Grafton, Ont.
3. Muir, J. B. ..... North Bruce, Ont.

Second Year.

Agriculture (Theoretical and Practical)—

1. Wark, A. E ..... Wanstead, Ont.
2. Carpenter, P. A ..... Collingwood, Ont.
3. McKay, J. B. ..... Stellarton, N. S.

Horticulture—

1. Carpenter, P. A ..... Collingwood, Ont.
2. Slater, H ..... Taunton, England.
3. Lehmann, A. ..... Orillia, Ont.
4. Powys, P. C ..... Fredericton, N. B.

Natural Science—

1. Slater, H ..... Taunton, England.
2. Carpenter, P. A ..... Collingwood, Ont.
3. Lehmann, A ..... Orillia, Ont.

Veterinary Science—

1. Carpenter, P. A ..... Collingwood, Ont.
2. Slater, H ..... Taunton, England.
3. Wark, A. E. ..... Wanstead, Ont.
4. McKay, J. B. ..... Stellarton, N. S.
5. Lehmann, A ..... Orillia, Ont.

English Literature—

1. Carpenter, P. A ..... Collingwood, Ont.
2. Slater, H ..... Taunton, England.
3. Powys, P. C. ..... Fredericton, N. B.
4. Butler, G. C ..... London, England.

Mathematics—

1. Carpenter, P. A ..... Collingwood, Ont.
2. { Lehmann, A. ..... Orillia, Ont.
   { Powys, P. C ..... Fredericton, N. B.
4. Slater, H ..... Taunton, England.
5. Wark, A. E ..... Wanstead, Ont.

Prizes Awarded on the Results of the Easter Examinations.

Regular Course.

First Year.

Agriculture and Live Stock—
1st. J. B. McKay.
2nd. T. Raynor.

Natural Science—
1st. J. B. McKay.
2nd. T. Raynor.

Veterinary Science—
1st. J. B. McKay.
2nd. J. B. Muir.

English Literature and Composition—
1st. T. Raynor.
2nd. H. L. Ridings.

Mathematics and Book-keeping—
1st. T. Raynor.
2nd. H. L. Ridings.

General Proficiency—
1st. T. Raynor.
2nd. J. B. McKay.
3rd. H. L. Ridings.

Second Year.

Agriculture and Live Stock—
1st. A. W. Ballantyne.
2nd. P. A. Carpenter.

Natural Science—
1st. P. A. Carpenter.
2nd. H. Slater.

Veterinary Science—
1st. P. A. Carpenter.
2nd. A. W. Ballantyne. / A. Lehmann.

Eng. Lit. and Political Economy-
1st. P. A. Carpenter. / P. C. Powys.
2nd. H. V. Tucker.

Mathematics and Book-keeping—
1st. A. Lehmann.
2nd. P. C. Carpenter.

General Proficiency—
1st. P. A. Carpenter.
2nd. H. Slater.
3rd. A. Lehmann.

Special Class.

First Year Students—
1st. C. Carlaw.
2nd. G. C. Sharman.

Second Year Students—
1st. H. B. Sharman.
2nd. W. W. Hubbard.

Associates of the College.

1881.

Ballantyne, W. W.....Stratford, Ont.
Dickinson, C. S.....England.
Grindley, A. W.....Montreal.
Motherwell, W. R.....County of Lanark.
Phin, R. J. (Governor-General's Medallist)..Hespeler, County of Waterloo.
Phin W. E..... " "
Pope, Herbert .....County of Grey, Ont.
Ross, James G.....Montreal.
Robins, W. P..... "

1882.

Blanchard, M. G.....Windsor, Nova Scotia.
Charlton, G. H.....St. George (Brant), Ont.

Chase, Oscar	Cornwallis, Nova Scotia.
Dawson, J. J	South Zorra (Oxford), Ont.
Dennis, James	Weston (York), Ont.
Elworthy, R. H	Jamaica.
Fotheringham, James	St. Marys (Perth), Ont.
Hallesy, Frederick	Merthyr Tydvil, Wales.
Horne, W. H	North Keppel (Grey), Ont.
Howitt, Wm	Guelph, (Wellington), Ont.
Landsborough, John	Clinton (Huron), Ont.
Mahoney, E. C	Hamilton (Wentworth), Ont.
Nicol, George	Cataraqui (Frontenac), Ont.
Ramsay, R. A. (Second Silver Medallist)	Eden Mills (Halton), Ont.
Shuttleworth, Arthur (First Silver Medallist)	Mt. Albert (York), Ont.
Silverthorne, Newman	Sommerville (Peel), Ont.
Stover, J. W	Norwich, (Oxford), Ont.
Wettlaufer, Frederick (Gold Medallist)	Tavistock (Oxford), Ont.
White, C. D	Hereford, England.

1883.

Fotheringham, W (Second Silver Medallist)	St. Marys (Perth), Ont.
Garland, C. S	Montreal.
Jeffs, H. B	Bond Head (Simcoe), Ont.
McPherson, D	Glanworth (Middlesex), Ont.
Perry, D. E	Ottawa (Carleton), Ont.
Robertson, W. (Gold Medallist)	Wanstead (Lambton), Ont.
Schwartz, J. A.	Quebec.
Torrance, W. J	Ottawa (Carleton), Ont.
Willis, W. B. (First Silver Medallist)	Whitby (Ontario), Ont.

1884.

Black. P. C.	Windsor, Nova Scotia.
Carpenter, P. A. (Gold Medallist)	Collingwood (Simcoe), Ont.
Lehmann, A. (Second Silver Medallist)	Orillia (Simcoe), Ont.
Major, C. H	Croydon, England.
Powys, P. C	Fredericton, N. B.
Saxton, E. A	Nantwich, England.
Slater, H. (First Silver Medallist)	Taunton, England.
Steers, O.	Ottawa, Ont.
Tucker, H. V.	Toronto, Ont.
Wark, A. E.	Wanstead (Lambton) Ont.
Wroughton, T. A	Bangalore, India.

Live Stock Certificates.

Nine members of the special Live Stock and Veterinary Class having done the work and passed the prescribed examinations, received special certificates as follows :—

First Year—

Carlaw, C. M.	Warkworth, Northumberland, Ont.
Sharman, G C.	Stratford, Perth, Ont.
Skaife, F. W	Montreal.

Second Year—

Cowley, E. A	Windsor, England.
Holcroft, H. S.	Orillia, Simcoe, Ont.

Hubbard, W. W.....Burton, N. B.
Keil, C. A.....Chatham, Kent, Ont.
McGregor, J.....Colborne, Northumberland, Ont.
Sharman, H. B. (winner of Special Medal)....Stratford, Perth, Ont.

Results and Conclusions.

On looking over these prize and honour lists, I must confess to a feeling of regret that the number of those who gained a first-class rank is so small, when compared with the total number of candidates. In a class of nearly seventy first-year students, seven carried off all the first-class departmental honours at Easter; and out of twenty-five second-year men, only seven were gazetted as first-class, and these in nearly all the departments. The record at the midsummer examinations was similar; but we would like to have seen it different. There should have been a wider distribution of the honours. The several classes should not have allowed a few men in each to carry off all the prizes and honours in every department.

One or two other facts regarding our honours, medals, and diplomas seem to merit a passing notice; and I make no apology for calling attention to them, although in doing so I may appear to express my disapproval of the very prevalent and, I think, injurious habit of smoking among young men. Many of our students, I regret to say, like those at other colleges, are confirmed smokers; but it is a noteworthy fact that hitherto our best students have been nearly all non-smokers. Of the twenty-eight who got departmental honour certificates at Easter and midsummer, twenty-two were non-smokers; of the eleven who received diplomas last year, eight were non-smokers and non-drinkers; and of the eleven to whom our college medals have been awarded, ten were non-smokers and non-drinkers.

Summer Term.

(1st July to 31st August.)

At the close of the Spring Term (30th June), when the year's lectures were ended, most of the farmer's sons went home for haying and harvest, and some of the other students hired out with farmers for the summer months; so that only twenty-six remained with us during the Summer Term (July and August). These worked nine and a half hours a day, giving more or less attention to all the departments but spending the greater part of their time where it was most needed, *i. e.*, on the farm. I shall not attempt to give a detailed account of the routine in each department, but simply say that the young men received more or less instruction in the fields, the yards, the gardens, and the shop. They spent a portion of their time in a special class for the purpose of learning how to dig, plough, harrow, sow, shear sheep, mow, cradle, drive a reaper, bind, shock, etc.; and assisted in doing all there was to do in the summer months, on a four hundred-acre grain and stock farm, and in the managemeht of a large vegetable garden, flower garden, orchard and lawn.

Fall Term.

Commencement of a New Scholastic Year—1st October, 1884.

Fifty old students returned at the beginning of the Fall Term and fifty-eight new ones were admitted, making a total of 108. Their names, post-office address, and other information regarding them having been given in the college roll and analysis on a previous page, I need not trouble you with a repetition at this point. I shall simply refer to one or two particulars and pass on.

Ages of Students.

The ages of our students during the Fall Term, which ended on the 22nd December, ranged from 16 to 34, as follows :—

19	at the age of	16	years.	7	at the age of	22	years.
16	"	17	"	2	"	23	"
18	"	18	"	3	"	25	"
18	"	19	"	1	"	27	"
11	"	20	"	1	"	28	"
11	"	21	"	1	"	34	"

Average age a little over 19 years.

Class-room Work.

The time table in Appendix I. indicates the subjects which are taken up in the Fall Term, and the number of hours allotted to each. Lectures commenced on Friday, the 3rd of October, and continued without interruption till 19th December.

Regular Students.

The first-year students received three lectures a week on the characteristic points and peculiarities of the different breeds of cattle; had a full course of lectures with experiments on Chemical Physics and Inorganic Chemistry; and spent two hours a week in studying the Anatomy and Physiology of the horse. Under the head of English and Mathematics, they read Gray's "Elegy," wrote compositions, and reviewed certain portions of Arithmetic, with special reference to the requirements of farming in Canada.

The attention of the second-year men was directed to such subjects as stock-breeding, farm management, and the experimental plots; the selection of animals for beef; the housing, feeding, and fattening of the same; the comparative values of pastures and green fodder; results from the different kinds of seed, soil, and manures; and the previous season's experiments with wheat, oats, and grasses. They had one lecture a week on Meteorology, and a full course on Agricultural Chemistry—the composition of different plants in relation to the soils on which they grow; the preservation and renovation of soils, the chemical composition and value of different manures, the superphosphates, double silicates, and other substances which furnish plant food. They spent two hours a week at lectures on Veterinary Pathology, and one in handling and examining horses for spavin, ring-bone, splint, founder, and other diseases, all under the eye and direction of our veterinary surgeon, Dr. Grenside; they also read three acts of Shakespeare's "Richard II.," and devoted some time to the study of dydamics and drainage.

Special Students.

Twenty-six students, who wished to confine their attention exclusively to Live Stock and Veterinary Science, chose the work of the Special Class described on a previous page. They attended the same lectures as the regular students with Professor Brown and Dr. Grenside, and had four additional lectures a week on the same subjects. The balance of their time they spent in reading text-books and in looking after cattle, sheep, and pigs in the pens, sheds, and stables.

In addition to this, they got a course of practical lectures on stock from P. J. Woods, our Farm Foreman—some in the class-room, but the greater part in the stables and yards with the cattle.

Fat Stock Show.

On the 17th and 18th December, the Council of the Agricultural and Arts Association held a Fat Stock Show in the City of Guelph, and kindly arranged matters so that all our students were afforded special opportunities for examining, comparing, and judging

the animals on exhibition. Every one had to take notes on the show as a whole, and on the best animals in each class, and write out a special report for Professor Brown. The work was heartily entered into and very much enjoyed by all.

Terminal Examinations.

The examinations on the work of the Fall Term took place on the 19th and 20th December. The subjects were as follows :—

First Year—

Live Stock,
Inorganic Chemistry,
Veterinary Anatomy,
English Literature,
English Composition,
Arithmetic,
Bookkeeping,

Second Year—

Agriculture,
Live Stock,
Agricultural Chemistry,
Veterinary Pathology,
English Literature,
Mechanics,
Draining.

The questions were not difficult, because they were intended only to show who were making a right use of their time, and to prepare the candidates for a severer test on the same and some additional work at Easter.

BOARDING HOUSE AND COLLEGE BUILDINGS.

For the information of those who have not seen the College Buildings, I take the liberty of quoting, with slight alterations, a paragraph from my last report, as follows :—

College Buildings.

The College building, as shown on frontispiece, is a plain substantial structure, without much claim to architectural beauty. Like the Institution itself, it was built little by little without any very definite idea of the shape it might ultimately assume. When the Government first bought land and determined to establish an agricultural college, the Architect drew plans for a building which would have suited the purpose very well, but the cost seemed too great and the country was not prepared for it ; consequently it was decided nine years ago to commence work with a few students in Mr. Stone's farmhouse. Additions and alterations were made from time to time as the number of students increased, till the result is a large and peculiarly arranged building altogether different from what was originally intended—not what we would like—but affording considerable accommodation and serving the purpose fairly well.

In the building, as it now stands, there are one hundred and twenty-two rooms—three class-rooms, a reading-room, a library, a room to be fitted up for a museum, a laboratory, three offices, a public reception-room, sixty-two students' dormitories, a large dining-hall, a servants' dining-room, a storeroom, pantery, kitchen, scullery, laundry, drying-room, eight bathrooms, nine bedrooms for servants, the messenger's-room, a parlour and bedroom for the Matron, a sitting-room and bedroom for the Assistant Resident Master, nine rooms in the left wing occupied as a dwelling-house by the President and his family, two rooms in the centre occupied by the Matron, an officer's dining-room, a spare room, three washrooms, an engine-room and a coal house.

Repairs and Alterations.

During the months of August and September last, some alterations and much needed repairs in the College buildings were made under the direction of the Public Works Department. A new and commodious stairway was constructed from the ground floor to the museum in the south end of the main building, the worn-out pine floors in the principal halls were replaced by well-seasoned beech and maple, and the dilapidated stairs leading from the washrooms up to the College halls were replaced by much more substantial ones—all promptly and in a very satisfactory manner.

Boarding House.

In the Boarding-house nothing special has occurred during the past year. Things have moved along as usual. Our supplies are provided by contract; and, generally speaking, the quality of the articles furnished has been satisfactory. The Matron has superintended the work in the culinary department, and the Assistant Resident Master has taken charge of the students at meals and assisted me in looking after them in the halls and dormitories.

Daily Routine.

In regard to the surroundings of our students in the College, and the duties required of them, I may say that their bedrooms are furnished with beds, bedding, bureaus, mirrors, washstands, study-tables, and chairs. They sleep separately, two in a room, and in a few instances three. The daily routine during the Fall, Winter and Spring Terms, is as follows:—

All are required to rise at six to make their beds and put their rooms in order. At half-past six they go to breakfast; and at seven, or half-past seven, according to the season of the year, the students of one division are sent to work outside, and those of the other employ their time as they feel disposed, till eight o'clock. From eight to nine the latter are at drill or gymnastics, and from nine to twelve at lectures in the classroom. Both divisions return to the boarding-house and prepare for dinner at half-past twelve. The bell rings at half-past one, and the division that was in at lectures in the forenoon goes out to work in the afternoon. The other division is free till two o'clock. From two till five it attends lectures; and at five both divisions return again to the boarding-house to prepare for tea at half-past five. From tea time to seven o'clock, and in spring to eight o'clock, they generally rest or take exercise. From seven to nine in fall and winter, and from eight to half-past nine in spring, they study in their rooms under the supervision of a master. At nine or half-past nine, according to the season of the year, they proceed to roll-call and evening prayers; lights are put out at ten, and doors closed at half-past ten. Every student who is not under ban for some misdemeanour, is allowed out one evening in the week till half-past ten. To some parents, perhaps this will appear late; but as it takes not less than thirty minutes to come from the city to the College, any earlier hour would scarcely give sufficient time. When going out each student leaves his name with the master in charge, and is required to report himself on his return, that we may know whether all are in or not before the doors are closed for the night.

Such is the routine in the boarding-house, and such are the duties required of the students therein, during nine months of the year. As the months of July and August are devoted entirely to work in the outside departments, the duties inside differ but little from those of an ordinary boarding-house on a large scale.

Discipline.

In the early part of last winter, a few restless spirits began to show signs of mischief and insubordination, such as manifest themselves now and then in every large boarding-house. I did what I could to bring them into line without the exercise of undue severity; but my efforts were unsuccessful. Moral suasion and the ordinary means of College discipline were only laughed at by the young men to whom I allude. They had evidently made up their minds to set authority at defiance and create an unseemly disturbance,

if possible. So they set themselves to annoy and insult one of the masters; but soon found to their sorrow that the way of transgressors, even at College, is hard. Six of them were summarily dismissed on the 31st January, and sent to seek quarters where such conduct can pass with impunity. The immediate effect was wholesome. Everything went on very quietly to the end of the year; and during the term just ended we have had better order and more satisfactory work than at any previous period in the last five years.

III.—THE BUSINESS DEPARTMENT.

Under this head there is a variety of work, for which the President and the Bursar are chiefly responsible—correspondence, books and accounts, general business, and the finances.

Correspondence.

Most of the correspondence falls to the lot of the President, and consists chiefly in sending out circulars, distributing reports, and answering inquiries about terms of admission, course of study, duties of students, cost of board and tuition, books used, books recommended, etc. Last year I distributed 1,700 copies of our last Annual Report, sent out over 8,000 circulars, and wrote, on an average, from five to six letters a day. Reports were sent to the leading Agricultural Colleges in Britain and the United States, to the subordinate Granges in Ontario, and to all farmers and others who applied for copies.

Books and Accounts.

Our Bursar, Mr. A. McCallum, as financial agent of the Institution, is responsible for the work under this head. It is his duty to examine all accounts against the College and the Farm, to check them by invoices and requisitions, to charge each item under the proper heading, and to make out separate statements for the College and the Farm once a month, submitting the former to the President and the latter to the Farm Superintendent for approval, and then to forward both to the Treasury for payment. He receives and accounts for all moneys from the College, the Farm, and the Treasury Department, and pays all accounts that have been approved of by the President or the Farm Superintendent, and passed by the Auditor. He also keeps three set of books:—

No. 1, showing the monthly expenditure under each head of the appropriation for the College and boarding-house.

No. 2, giving in detail the revenue and expenditure of the outside departments under the Farm Superintendent.

No. 3, showing the account of each student from the day he enters the College till he leaves it—tuition fees, board and washing, amounts allowed for labour, and cash balances paid the College for board and washing.

Printed sheets containing the names of all the students are furnished each foreman daily, who fills in the blanks with the description of the work done that day by the students in his department, the number of hours each has worked, and the estimated value of such work. These are filed daily in the office, and journalized weekly. At the end of the financial month these sums are posted to the credit side of each student's account in the ledger, whilst on the debit side is placed the cost of the board and washing for that month, as obtained from the books of the storeroom and the laundry. One hundred and eighty-eight such accounts were made out last year.

General Business.

In addition to his duties as book-keeper, the Bursar has to provide supplies for the boarding-house, and see that the quality of all articles furnished by tender is up to the standard required by the terms of contract.

The President signs requisitions for all purchases in the College, takes charge of the College buildings generally, and is responsible, not only for the management, but for the discipline of the inside departments, as regards both officers and students.

FINANCES.

Revenue.

The College revenue in 1884 amounted to $8,817.71, and was made up of the following items :—

(1) Tuition fees	$4,709 00
(2) Balances paid for board, after deducting allowances for work in outside departments	3,984 21
(3) Paid for breakage	11 00
(4) Paid for supplemental examinations	10 50
(5) Paid for library book lost	3 00
Total revenue in 1884	$8,717 71

Expenditure.

No. 1.—*College maintenance*—

The total sum voted for College maintenance last year, as per Provincial Estimates, page 30, was $25,490 ; and from this was deducted the sum of $9,000, which the Legislature estimated as the probable College revenue for the year. So the net sum voted under this head was $16,490. (See Estimates of 1884, page 30.)

The total expenditure for College maintenance during the twelve months has been $24,759.02 ; and from this we have deducted the sum of $8,717.71, which is the actual College revenue for the year. So the net expenditure under this head for 1884 has been $16,041.31.

Stated briefly as follows :—

Net sum voted for College maintenance in 1884	$16,490 00
Net expenditure for College maintenance in 1884	16,041 31
Balance unexpended under this head	$448 69

No. 2.—*Maintenance and repairs of Government buildings*—furniture and furnishings, repairs and alterations, fuel, light, and water—

The sum voted under this head was $6,450, and the expenditure exceeded that amount by $40.82, as follows (see Estimates for 1884, page 33) :—

Sum voted for maintenance and repairs of buildings in 1884	$6,450 00
Expenditure for " " in 1884	6,490 82
Over-expenditure under this head	$40 82

Summary.

Total sum voted, less estimated revenue, under both the above heads for 1884	$22,940 00
Total sum expended, less actual revenue, under both the above heads in 1884	22,532 13
Net balance unexpended	$407 87

The following table indicates briefly the amounts expended under the different heads which make up the totals just mentioned :—

No. 1.—COLLEGE MAINTENANCE.

I.—*Salaries and Wages*	$11,400 88

II.—*Food*—		
Meat, fish and fowl	4,157 67	
Bread and biscuits	997 24	
Groceries, butter and fruit	3,981 85	
III.—*Household Expenses*—		
Laundry, soap and cleaning	157 49	
Women servants' wages	1,753 34	
IV.—*Business Department*—		
Advertising, printing, postage and stationery	782 26	
V.—*Miscellaneous*—		
Chemicals and apparatus for Laboratory	156 33	
Library (books, papers and periodicals)	305 38	
Travelling expenses (Farmers' Institutes)	300 00	
Unenumerated	766 58	
		$24,759 02
Less Revenue		8,717 71
Net expenditure for College Maintenance		$16,041 31

No. 2.—Maintenance and Repairs of Government Buildings.

(1) Furniture and furnishings	$568 58	
(2) Repairs and alterations	803 68	
(3) Fuel	3,398 44	
(4) Light	1,170 12	
(5) Water for both College and Farm (rent paid City water-works)	550 00	
		$6,490 82
Total net expenditure in 1884		$22,532 13

Of the above $22,532.13, expenditure for the year, $4,234.98 was for student labour on the Farm and Garden at rates fixed by the Farm Superintendent and his foremen; but, as an offset to this, we received from the Farm and Garden flour, milk, vegetables, and fruit valued at $1,463.41—Farm, $860.02, and Garden, $603.39. From which it will be seen that there is a balance of $2,771.57 to the credit of the College, which being deducted from the 22,532.13, leaves a net expenditure of $19,760.56 for the year.

For the items making up the $866.02 credited to the farm, see Appendix 4; and for the Garden, turn to Mr. Forsyth's report in part VI., at the end of this volume.

MISCELLANEOUS ITEMS.

Library.

A very important factor in the education given at the College, is our Library, which numbers 4,220 volumes, to which we are adding from time to time as circumstances permit and the work of the several departments demands. We have not only a good representation of the best books which treat of the several branches taught in the Institution, but also a large number of volumes on history, biography, travels, poetry, and general literature, as well as the latest and best dictionaries and encyclopædias.

Reading-Room.

In our Reading-Room, which may be described as large, commodious and well-lighted, we have had forty-six papers and magazines on file during the past year—twelve sent free by the publishers and thirty-two furnished by the College.

Papers and Magazines.

(*a*) *Sent Free by the Publishers.*

Journal of Commerce, Montreal.
Journal of Agriculture, Montreal.
Weekly Herald, Stratford.
Advertiser, Elmira.
Christian Guardian, Toronto.
Canadian Lumberman, Peterboro'.
Dominion Mechanical and Milling News, Toronto.
Monthly Weather Review, Toronto.
Canadian Horticulturist, St. Catherines.
Canadian Entomologist, London.
St. John Telegraph, St. John, N. B.
Weekly Witness, Montreal.

(*b*) *Furnished by the College.*

Daily Globe.
Daily Mail.
Weekly Globe.
Weekly Mail.
Guelph Mercury.
Guelph Herald.
Canadian Farmer.
Farmers' Advocate.
Rural Canadian.
Canadian Breeder.
Canadian Dairyman.
Grip.
The Week.
Canadian Stock Raisers' Journal.
North British Agriculturist, Edinburgh.
Farmers' Gazette, Dublin, Ireland.
Mark Lane Express, London, England.
Live Stock Journal and Fancier's Gazette, England.
Popular Science News and Boston Journal of Chemistry.
Scientific American.
Scientific American Supplement.
Science.
Cultivator and Country Gentleman.
Rural New-Yorker, U.S.
Country Gentleman's Magazine.
Gardener's Monthly.
Veterinarian.
Veterinary Journal.
Aberdeen Free Press.
Good Words.
Sunday Magazine.
Quiver.

☞ I wish here to acknowledge the kindness and generosity of the publishers who have sent us free of all charge the twelve papers placed at the head of this list.

Museum.

We have also a room set apart for a museum in the south end of the main building, not so large as we could wish, but fairly well adapted to the purpose. If the roof were raised, a gallery constructed, additional windows put in the east end, and the whole room re-floored, and refitted, we could soon make a very interesting and useful display of grain, seeds, and specimens in natural history, entomology, geology, meteorology, etc.

Under several of these heads we have already a very fair collection; and a portion of it has been arranged and classified by the Professor of Biology, who acts as Curator of the Museum.

Literary Society.

The Literary Society in connection with the College never was more active, vigorous, and useful than at the present time. The members of this society meet every Friday evening in one of the class-rooms, to practise reading, debating, and declamation. The discussions are often quite spirited; and the work done is, undoubtedly, a very valuable addition to the educational appliances of the Institution. In the performance of such work, the young men have an opportunity of testing their ability before they assume the responsibilities of life on the broader scale. They learn to speak in public, and gradually become acquainted with the rules of order according to which public meetings are conducted. Their wits are sharpened, their reasoning powers developed, and their

manners improved. Last year the funds of the society were spent in the purchase of prizes for reading, essay-writing, and public speaking.

Changes in Staff.

The only change in the staff of instruction during the year was in the department of Biology and Horticulture. J. Playfair McMurrich, M.A., who was the Professor in that department for the last three years, resigned his position on the 1st October, to engage in more congenial work at John Hopkins University, Baltimore, U.S.; and the vacancy has been filled by the appointment of H. Hoyes Panton, M.A., who was our Professor of Chemistry and Natural History for some time prior to his voluntary resignation in the winter of 1882. Professor Panton will undertake the work which was allotted to Professor McMurrich, and also the subjects of Geology and Meteorology, which have hitherto been taught by the Professor of Chemistry.

Professor McMurrich is one of the rising biologists of this continent. He is fast gaining a favorable reputation for original work, not only here, but in Europe; and I predict for him a brilliant career in the new field which he has just entered.

There has also been a change in the bursarship of the institution. Mr. A. McCallum, formerly of Brighton, Ont., was appointed in July last to fill the position which Mr. A. T. Deacon had occupied for two years and a half previous to that date.

Recommendations.

Although much has already been done to provide suitable buildings and equipment for the College, there is still need of many things to meet the growing requirements of the Institution. I shall not alarm you, Sir, or the Legislature, by pressing for too much at once, but simply enumerate a few of the additions and alterations which should be made without delay, and leave the question of details to be settled with the Department of Public Works. A few moments' consideration would convince any one that the following are among the most urgent wants of the Institution, and should receive early attention from those who are responsible for its growth, development, and usefulness:—

(1) The removal of our old barns and stables and the erection of suitable farm buildings at a respectable distance from the College, on the site selected by Mr. Miller of Philadelphia.

(2) A good laboratory for practical work in the department of Chemistry.

(3) Two cottages for professors on the College grounds—one for the Professor of Chemistry, and the other for the Professor of Geology and Natural History.

(4) The construction of three or four contiguous water-closets in the College building and some alterations in one of the washrooms for the accommodation of students.

(5) An addition to our coal-house, and a new hot water boiler in the engine-room.

To those who have visited us, it is quite unnecessary to say that our barn, stables, and especially our yards, are not such as farmers and students expect to find at an institution of this kind. The stables are dark, inconvenient and poorly ventilated; and the barn-yard, in its present condition, is admirably adapted to illustrate how good manure may be wasted by plenty of rain and a suitable outlet for the soluble salts of ammonia and potash. These yards and stables are behind the times, and ought not to be found at an institution which is supposed to teach not only by precept, but by example also.

I have pleaded so often and so strongly for a good chemical laboratory, that it seems a useless repetition to argue the question any further. Every one who knows anything about the science of agriculture or the requirements of an agricultural college, will admit that a chemical laboratory is an absolute necessity and should be provided before almost anything else at such an institution. An expenditure for the erection and equipment of such a building was one of the first incurred by every college worthy of the name on this continent, except our own. Men everywhere have recognized the fact that chemistry lies

at the very foundation of all enlightened progress in agricultural science and practice; but in this Province of Ontario, which founded an Agricultural College ten years ago, we seem to attach but little importance to the science without which the German and American institutions think they can make no real progress. We teach Chemistry in a room set apart for the purpose; but we have no chemical laboratory. I asked for one in 1879, and have repeated the request every year since—but all in vain. May I, then, in the year of grace 1885, once more repeat my request to the Government and Legislature of Ontario for a well equipped chemical laboratory at the Ontario Agricultural College? $12,000 will give us what we require.

I have the honour to be, Sir,

Your obedient servant,

JAMES MILLS,
President.

APPENDIX 1.

TIME TABLES FOR FALL TERM (1st October to 22nd December), 1884.

Tables No. 1 and 2 indicate the work of the regular students for the term ending the 22nd December, 1884. No. 1 is the same as No. 2, except the order of the lectures, which change from forenoon to afternoon, and *vice versa* at the beginning of each week, to suit the arrangements for practical work in the outside departments.

TIME TABLE No. 1.

2nd Year.

	Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
Forenoon.	7-12	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departm's.
Afternoon.	2-3	English Literature.	Statics.	English Literature.	English Literature.	Levelling and Drainage.	Half Holiday.
	3-4	Agricultural Chemistry.	Agricultural Chemistry.	Practical Live Stock.	Meteorology.	Agricultural Chemistry.	
	4-5	Veterinary Pathology.	Agriculture.	English Composition.	Veterinary Pathology.	Practical Horse.	

1st Year.

	Hours.	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
Forenoon.	7-12	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departm's.
Afternoon.	2-3	Arithmetic.	English Composition.	Agriculture.	2. Arithmetic. 2.40 Book-keeping. 3.20 Human Physiology and Sanitary Science.	Agriculture.	Half Holiday.
	3-4	Agriculture.	Human Physiology and Sanitary Science.	English Literature.		English Literature.	
	4-5	Inorganic Chemistry.	Veterinary Anatomy.	Inorganic Chemistry.	Inorganic Chemistry.	Veterinary Anatomy.	

TIME TABLE No. 2.

2ND YEAR.

	Hours	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
Forenoon.	7-8	Study or Recreation.	Study or Recreation.	Study or Recreation.	Study or Recreation.	Study or Recreation.	Half Holiday.
	8-9	Drill or Gymnastics.	Drill or Gymnastics.	Drill or Gymnastics.	Drill or Gymnastics.	Drill or Gymnastics.	
	9-10	English Literature.	Statics.	English Literature.	English Literature.	Levelling or Drainage.	
	10-11	Agricultural Chemistry.	Agricultural Chemistry.	Practical Live Stock.	Meteorology.	Agricultural Chemistry.	
	11-12	Veterinary Pathology.	Agriculture.	English Composition.	Veterinary Pathology.	Practical Horse.	
Afternoon.	1.30-5	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departm's.

1ST YEAR.

	Hours	Monday.	Tuesday.	Wednesday.	Thursday.	Friday.	Saturday.
Forenoon.	7-8	Study or Recreation.	Study or Recreation.	Study or Recreation.	Study or Recreation.	Study or Recreation.	Half Holiday.
	8-9	Drill or Gymnastics.	Drill or Gymnastics.	Drill or Gymnastics.	Drill or Gymnastics.	Drill or Gymnastics.	
	9-10	Arithmetic.	English Composition.	Agriculture.	9. Arithmetic. 9.40. Book-keeping.	Agriculture.	
	10-11	Agriculture.	Human Physiology and Sanitary Science.	English Literature.	10.20. Human Physiology and Sanitary Science.	English Literature.	
	11-12	Inorganic Chemistry.	Veterinary Anatomy.	Inorganic Chemistry.	Inorganic Chemistry.	Veterinary Anatomy.	
Afternoon.	1.30-5	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departments.	Work in outside departm't's

APPENDIX 2.

ONTARIO AGRICULTURAL COLLEGE.

EXAMINATION PAPERS.

I. PAPERS SET AT THE MATRICULATION EXAMINATIONS, EASTER, 1884.
II. PAPERS SET AT THE SESSIONAL EXAMINATIONS, EASTER, 1884.
III. PAPERS SET AT THE SESSIONAL EXAMINATIONS, MIDSUMMER, 1884.

1. PAPERS SET AT THE MATRICULATION EXAMINATIONS, EASTER, 1884.

ARITHMETIC.

Examiner: E. L. Hunt.

1. A hires with a farmer for $10 a month; his expenses are $4 a month. In what time will he save enough to buy 25 acres of land at $30 an acre?

2. A buys from B, general merchant, $4\frac{1}{4}$ lbs. tea at 60 cts. a lb., 24 lbs. sugar at 9 cts. a lb., and 22 yards cloth at $1.25 a yard, and gives in payment 3 dozen eggs at 12 cts. a dozen, and butter at 20 cts. a lb. How many lbs. butter does A give B?

3. Find (*a*) the H C F of 1908 and 2736.
(*b*) The L C M of 15, 26, 39, 65, and 180.

4. If 280 bushels of oats last 24 horses 120 days, in how many days will 9 horses consume 63 bushels?

5. Add together 12.346; .0045; 1.12 and .3, and convert the sum into an equivalent vulgar fraction.

6. Simplify $\frac{3}{5}$ of $\frac{4}{9} \div \frac{5}{6} + (\frac{1}{3} + \frac{3}{4}) - \frac{4}{9} \times \frac{27}{32} + \frac{1}{4}$

7. A, B and C engage to cut a pile of wood 66 ft. long, 8 ft. high, and 4 ft. wide. A can cut as much in three days as B can in $3\frac{3}{4}$ days, and as C in $4\frac{1}{2}$ days, and C can cut $\frac{3}{4}$ cord in one day. A, B and C work together $2\frac{1}{2}$ days, when A leaves. How long will it take B and C to finish?

ENGLISH GRAMMAR.

Examiner: James Mills, M.A.

1. Define the terms *person*, *case*, *voice*, and *syntax*.

2. Write out the feminine forms corresponding to *friar*, *abbot*, *hart*, *marquis* and *executor*; and give the plural of *grotto*, *lady*, *flagstaff*, *scarf*, *commander-in-chief*, and *phenomenon*.

EASTER EXAMINATIONS, 1883—Continued.

3. Compare, *ill*, *near*, *happy*, and *beautiful*.

4. Decline *it*, *her*, *and whom*.

5. State and illustrate the different uses of the word *that*.

6. Correct the following sentences, giving reasons :—

(1) Please keep room 17 for McIntyre and I.

(2) I dislike those sort of questions.

(3) Every one will please attend to their own work.

(4) Can I go to the city ?

7. Analyse the following passage, and parse all the words in it :

"All that we possess is God's, and we are under obligation to use it all as He wills."

GEOGRAPHY.

Examiner : J. Playfair McMurrich, M.A.

1. Define the following terms used in Geography :—*Equator*, *latitude*, *peninsula*, *gulf*, *channel*, *delta*. Give examples of each of the four last.

2. State the boundaries of Austria, and name five of its principal towns.

3. Describe the position of the following islands, stating in the case of each the country to which it belongs :—*Cuba*, *Malta*, *Ascension*. *Mauritius*, *Hebrides*.

4. Draw an outline map of the Province of Ontario, indicating the position of *Ottawa*, *Kingston*, *Toronto*, *Guelph* and *Sarnia*.

5. Draw an outline map of the North-West Territories, marking off upon it the principal towns and rivers, and the course of the Canada Pacific Railway from Winnipeg to the Rocky Mountains.

6. What and where are the following :—*Quebec*, *Natal*, *Malacca*, *Ural*, *Vancouver*, *Khartoum*, *Crimea*, *Cincinnati*, *Cabul*, *Alleghany*.

COMPOSITION.

Examiner : R. B. Hare, Ph. D.

Write a composition on one of the following subjects :—

(*a*) A description of your home and its surroundings.

(*b*) The advantages of country life over city life.

(*c*) A letter to a friend describing how you spent last summer.

DICTATION AND READING.

Examiner : R. B. Hare, Ph. D.

Dictation.—Fourth Book, p. 77—"I now plodded.....air tremble."

Reading.—Fourth Book, p. 76, 77—"At last.....Anticosti."

EASTER EXAMINATIONS, 1883—Continued.

II. PAPERS SET AT THE SESSIONAL EXAMINATIONS, EASTER, 1884.

FIRST YEAR.

AGRICULTURE.

Examiner: Wm. Brown.

1. Give the rotation of cropping called the "Seven Shift," and discuss its importance.
2. Judge the accompanying sample of wheat.
3. Sketch the best management of farm-yard manure.
4. What are special manures, and their position in farm practice?
5. What are green fodders, their time, usual quantity, and relative values?

FIRST YEAR.

CATTLE AND SHEEP.

Examiner: Wm. Brown, Esq.

1. Give some reasons why pedigree animals are desirable, and what is meant by having "the pedigree on their backs?"
2. Distinguish between the two standard types of cattle, and name a breed most applicable to each.
3. What is meant by constitution, impressive power, foraging, and disposition, among cattle and sheep?
4. Compare the characteristics of the Hereford and Aberdeen-Angus Poll breeds.
5. Place, in order of merit, by quality of milk, the nine breeds of cattle we studied.
6. Classify the nine breeds of sheep we have studied, and make comparative notes on them: (1) Early maturing, (2) Weight of fleece, (3) Weight of carcass, and (4) Hardiness.
7. What is implied when we say, that to know all breeds of sheep it is only necessary to know the Leicester and South Down?
8. When we desire the wool of the Merino, the carcass of the Leicester, and the constitution of the South Down, what breed meets the bill best?
9. Criticise the two samples of wool herewith, and indicate to what breed or grade they belong respectively.
10. Describe the points of cattle and sheep that agree when we desire to obtain rapid production of flesh.

FIRST YEAR.

INORGANIC CHEMISTRY.

Examiner: R. B. Hare, Ph. D.

1. Define "atom," "molecule," "atomic weight," "molecular weight," "acid," "acid forming oxide," "basic oxide," and "salt."
2. What is meant by combination in definite, equivalent, and multiple proportions?

EASTER EXAMINATIONS, 1883—Continued.

3. Write in symbols the following compounds :—Sodium hyponitrite, bismuth nitrate, calcium carbonate, ferrous chloride, ferric sulphate, hypochorous acid, sodium chlorite, zinc chloride, pottassium perchlorate, hypobromous acid, calcium fluoride, thiosulphuric acid, hyposulphurous acid, hydrofluosilicic acid, sodium metaphosphate, calcium phosphate, potassium hypophosphite, Scheele's green, Glauber's salts, bleaching powder, and Epsom salts.

4. Draw a diagram of the apparatus you would use in preparing chlorine, ammonia, silicon. tetrafluoride, phosphuretted hydrogen, and sulphur dioxide.

5. (*i*) What compounds can be formed by the combustion of the following substances in a limited and in an excessive quantity of air? And what are their respective formulæ? Sulphur, phosphorus, hydrogen, carbon, and arsenic.

(*ii*) How would you show that air is necessary for the maintenance of ordinary combustion?

(*iii*) Supposing the air to contain 23 per cent. of hydrogen by weight, how many grains of it must be supplied to order to burn completely—

(*a*) 10 grams of carbon.

(*b*) 10 grams of sulphur.

(*c*) 10 grams of phosphorus?

(*iiii*) Explain the structure of the flame, and describe how you would support your explanation by experiment.

6. Six bottles containing oxygen, hydrogen, nitrogen, chlorine, nitrous oxide, and sulphur dioxide respectively, are given to you, with the request *to determine the nature of the gas* in each bottle. How would you distinguish each of these gases from the others?

7. Formulate the decompositions occurring in the preparation of chlorine, phosphorus, nitric acid, sulphuric acid, and phosphuretted hydrogen.

8. How many cubit centimetres of ammonia measured at 20°, and under a pressure of 790 mm., can be obtained from 100 grams of ammonium chloride?

9. (*i*) Give with the name and formulæ of the oxides of nitrogen, their per centage composition.

(*ii*) Why is the atmosphere supposed to be a mechanical mixture and not a chemical compound?

(*iii*) What is meant by the term "hardness" as applied to water?

10. Describe any experiments you have made or seen made.

FIRST YEAR.

ORGANIC CHEMISTRY.

Examiner: R. B. Hare, Ph. D.

1. Describe briefly the process adopted for the estimation of the carbon and hydrogen contained in organic compounds.

2. Give the names and formulæ of the best known members of the paraffine and olefine series.

3. Show the relation in composition existing between monatomic, diatomic, and triatomic alcohols.

4. Name the properties and mode of preparation of ethyl alcohol and acetic acid. What is the action of sulphuric acid upon ethyl alcohol?

EASTER EXAMINATIONS, 1884—Continued.

5. Give the formulæ of hydrocyanic acid, formamide, acetamide, chloroform, ethyl nitrite, melisyl alcohol, methylamine, cacodyl, tri-ethyl bismuthine, acetyl aldehyde, chloral, acetone, malic acid, citric acid, urea, carbolic acid, salicylic acid, morphine, and strychnine.

6. (*i*) What is the composition of the natural oils and fats?

(*ii*) Illustrate by formulæ the chemical action occurring in soap making.

(*iii*) Show the relation in composition existing between (1) the lactic series, (2) the oxalic series, and the glycols.

7. (*i*) Describe briefly the composition, occurrence, and properties of the sucroses, glucoses, and amyloses.

(*ii*) What are the principal phenomena of fermentation?

8. (*i*) Show that the constitution of the saturated compound benzine is different from that of the alcohol group of bodies.

(*ii*) What is the general composition of essential oils? Of albuminoids?

9. (*i*) Describe the properties and mode of preparation of nitro-glycerine and dynamite.

(*ii*) Formulate the chemical action occurring in the preparation of tartar emetic.

FIRST YEAR.

PHYSIOLOGY AND ZOOLOGY.

Examiner: J. Playfair McMurrich, M. A.

1. Describe the arrangement of the valves of the heart, and show their use.

2. Hay contains albuminous, fatty, amyloid, woody and mineral constituents. Describe the digestion of hay by a ruminant.

3. Describe the mechanism of respiration.

4. What is meant by the expression "adaptation of organs?" Give an example.

5. State the general characters of the *Foraminifera*. Indicate their importance in rock-formation.

6. Describe the structure and life-history of a tape-worm What form occurs in lambs, and whence do they probably obtain it?

7. *Syngamus trachealis* and *Echinorhynchus gigas*. To what orders do these belong and what animals do they infest?

8. State the characters of the order *Insecta* which distinguish it from the other orders of air-breathing *Arthropoda*.

9. Describe the general modifications of the spinal column in the *Vertebrata*. What other characters distinguish vertebrates from invertebrates?

FIRST YEAR

VETERINARY ANATOMY.

Examiner: F. C. Greenside.

1. Name the different processes of digestion, and state by what organ or organs each is affected.

EASTER EXAMINATIONS, 1884—Continued.

2. Give the number and kinds of teeth possessed by an adult horse.

3. Mention the structures entering into the formation of teeth, and describe the arrangement of the Incisors of ruminants.

4. Account for a horse not being able to breathe through his mouth.

5. Describe how rumination is believed to be effected.

6. Why is it that a catheter cannot be passed in a bull? and what precaution is necessary to pass one in a cow?

7. Describe the course of the circulation of the blood.

8. Describe the valves of the heart, and their function.

9. Describe the situations of the urinary organs of the male.

10. What is the function of the Lymphatic, or Absorbent system.

FIRST YEAR.

ENGLISH LITERATURE.

Examiner: J. Playfair McMurrich, M. A.

1. Give the dates of Irving and Scott. Were they personally acquainted, and if so, how did the acquaintance arise, and what resulted from it?

2. "He loved to tell long stories about the *stark* old warriors whose portraits looked grimly down from the walls around, and he found no listeners equal to those who fed at his expense. He was much given to the marvellous, and a firm believer in all those *supernatural* tales with which every mountain and valley in Germany abounds. The faith of his guests exceeded even that of his own. They listened to every tale of wonder with open eyes and mouth, even though repeated for the hundredth time. Thus lived the Baron von Landshort, the *oracle* of his table, the absolute monarch of his little territory, and happy, above all things, in the persuasion that he was the wisest man of the age.

(*a*) Give the origin and meaning of the words in italics.

(*b*) "Supernatural tales, etc." Give the outline of one.

(*c*) Absolute monarch. What other kind of monarchy is there? Distinguish between them, and give examples of each from the kingdoms of to-day.

(*d*) Point out and define any figures of speech in the extract.

3. "This flagitious attack on the dignity of the knight so incensed him, that he applied to a lawyer at Warwick to put the severity of the laws in force against the rhyming deer-stalker. Shakespeare did not wait to brave the united puissance of a knight of the shire and a country attorney."

(*a*) Define "flagitious" and "puissance."

(*b*) "This flagitious attack." What was it, and how was it brought about?

(*c*) Give a brief outline of Shakespeare's life after this occurrence.

4. Name the hero and heroine of the "Lady of the Lake," giving a brief account of the former's life up to the time of the poem.

5.

1 And thus an airy point he won,
2 Where gleaming with the setting sun,
3 One burnished sheet of living gold.
4 Loch Katrine lay beneath him rolled,
5 In all her length far winding lay,
6 With promontory, creek, and bay,

EASTER EXAMINATIONS, 1884—Continued.

7 And islands that, empurpled bright,
8 Floated amid the livelier night,
9 And mountains that like giants stand,
10 To sentinel enchanted land.
11 High on the south, huge Benvenue
12 Down on the lake in masses threw
13 Crags, knolls, and mounds, confusedly hurled,
14 The fragments of an earlier world."

(*a*) *burnished* (l. 3), *empurpled* (l. 7), *livelier* (l. 8). Give meaning of these words.

(*b*) *Loch Katrine.* Where is it? Draw a map showing its position and the features of the surrounding country.

(*c*) In what metre are the above lines? Scan ll. 13-14. Explain the metre of l. 13.

6. Name Scott's principal works. Under what circumstances were his later works written.

FIRST YEAR.

COMPOSITION.

Examiner: JAMES MILLS, M.A.

1. Quote rules for punctuating:
   (1.) Co-ordinate words and phrases.
   (2.) Participial phrases.
   (3.) Adverbial phrases.
   (4.) Complex sentences.

2. Punctuate the following sentences, giving rules:—
   (*a*) "In carrying a barometer from the level of the Thames to the top of St. Paul's Church in London the mercury falls about half an inch marking an ascent of about five hundred feet.
   (*b*) "Though deep yet clear though gentle yet not dull
   Strong without rage without o'erflowing full.

3. Give directions for the arrangement of—
   (*a*) Modifying phrases in a simple sentence.
   (*b*) The subordinate elements in complex sentences.
   What is to be aimed at in each case?

4. Combine the following statements—(*a*) into a simple sentence, (*b*) into a complex sentence; and punctuate carefully:—
   (*a*) Bruce sent two commanders.
   The war between the English and Scotch still lasted.
   He sent the good Lord James Douglas.
   He also sent Thomas Randolph, Earl of Moray.
   These men were great commanders.
   They were to lay waste the counties of Northumberland and Durham.
   They were to distress the English.

EASTER EXAMINATIONS, 1884—Continued.

(*b*) Augustus held a Council in order to try certain prisoners.
This was while he was at Samos.
This was after the famous battle of Actium.
This battle made him master of the world.
The prisoners tried were those who were engaged in Antony's party.

5. Write a description of the City of Guelph, paying special attention to choice of words, arrangement, spelling, and punctuation.

FIRST YEAR.

ARITHMETIC.

Examiner: E. L. HUNT.

1. A merchant failed and his goods were worth $7,770. Out of this he can pay his creditors 37 cents on the dollar. He owed one creditor $2,100. Find the merchant's indebtedness and what the one creditor got as his share.

2. A farmer sells 2 tons, 450 lbs. of hay at $12\frac{1}{4}$ a ton. Out of this he pays a labourer for cutting $18\frac{3}{4}$ cords wood at 90 cents a cord. How much has he left?

3. A. deposits $300 in the Bank at the end of each year. What amount will he have in the bank at the end of 5 years? Interest at 5 per cent.

4. Distinguish True and Bank Discount. A farmer gave for a horse a bill of $272, due in two months, and sold him at once for a bill of $316, due in five months. Find his gain or loss; true discount being reckoned at $4\frac{1}{2}$ per cent.

5. A. bought from B. 25 acres of land at $55 an acre; gave $500 cash, and his note for the balance drawn March 10th, at 9 months. If B. has this note discounted at the Bank November 12th, at 6 per cent., what amount will he receive for the note?

6. Define Insurance, Premium, Policy. Find the premium of Insurance on property valued at $2,460, at $\frac{1}{6}$ per cent.

7. A's property is assessed at $8,450, and the rate of taxation is $7\frac{1}{4}$ mills on the dollar. A. appeals, and has his property valued at $7,600. Find the difference in the amount of his taxes.

8. (*a*) Why are duties imposed on imported goods?
(*b*) Distinguish *ad valorem* and specific duties.
(*c*) Find the duty on 2,300 lbs. sugar worth 7 cents a pound, duty being 25 per cent.
(*d*) If a merchant pays $7\frac{1}{2}$ cents a lb. for sugar in the United States, $\frac{3}{4}$ cent a lb. for freight—a duty of 30 per cent., and sells it for 12 per cent. advance on cost, find the retail price.

9. A. owned $3,500 Montreal Bank Stock. He sells at $191\frac{1}{4}$, and invests in Bank of Commerce at 126. The dividends being respectively at 10 and 6 per cent., and the brokerage $\frac{1}{4}$ per cent., find—

(*a*) The amount of Stock purchased.
(*b*) The alteration in the income.
(*c*) The brokerage on the transactions.

10. A merchant consigns a quantity of flour to an agent in Montreal, who charges $2\frac{1}{2}$ per cent. commission for selling, and $3\frac{1}{2}$ per cent. for buying, with instructions to invest the proceeds (after deducting his commission for both transactions), in certain goods; the agent sells the flour at $6.25 a bbl., and invests as directed, his entire commission being $432; how many bbls. flour were consigned?

EASTER EXAMINATIONS, 1884—Continued.

FIRST YEAR.

BOOK-KEEPING.

Examiner: E. L. HUNT.

1. What is the object of Book-keeping? State the principal books usually employed. Would you use all these in keeping farm accounts? Why, or why not?

2. Enumerate the ledger accounts requisite on an ordinary farm of 100 acres.

3. State fully how you would close the following accounts:—

(*a*) Cash.

(*b*) Loss and Gain.

(*c*) Balance.

4. Make out, and close, an account with a wheat field of 10 acres.

5. Explain what is meant by (*a*) Note negotiable by endorsement; (*b*) a Draft. Write out a form of each; also of note negotiable without endorsement.

6. Make out an inventory of the Live Stock for a farm of 100 acres.

7. Enter each of the following in the accounts affected:—

Sept. 7, paid cash for repairing plough, $1.30. Sept. 20, shoeing horses, $1.20; gave in payment 6 lbs. butter. Oct 1st, paid $9.00 for threshing oats. Oct. 12, sold 40 bush. oats at 40 cts. a bushel. Oct. 20, fed 12 bush. oats to horses. Oct. 21, travelling expenses to Niagara Falls, $8.50. Oct. 30, bought pair boots, $7.00; rubbers, 60 cts.; got boots repaired, 70 cts.; gave in payment 12 bush. oats and $3 50 cash for remainder.

SECOND YEAR.

AGRICULTURE.

Examiner: WM. BROWN.

1. Sketch in order of occurrence the management of a flock of ewes from 1st Sept. to following August, as applicable to Ontario.

2. Discuss, briefly, the position of Ontario farming as regards the use of special fertilizers, in association with systematic cropping, and the best management of farm-yard manure.

3. What is the result of your study of the Experiments in feeding cattle with grain during the past winter?

SECOND YEAR.

LIVE STOCK.

Examiner: WM. BROWN.

1. Give reasons for, and against, the practise of clipping lambs, and of clipping all other sheep twice a year, in Ontario.

2. What have been the lessons in the purchase, feeding and finishing of the steer called "The White Duke"?

EASTER EXAMINATIONS, 1884—Continued.

3. In the proposed importation of nine breeds of cattle and nine of sheep for the Ontario Experimental Farm this year, show the relative importance of each to the province by a diagram—the longest line, or most important, equalling 100.

4. On 1st December last the average animal of the three grades of steers at present in contest here stood thus:

Hereford, 468 days, weighed 1,054 lbs.
Aberdeen-Angus Poll, 470 days, weighed 1,155 lbs.
Shorthorn, 666 days, weighed 1,237 lbs.

What is likely to be their weight and financial standing on 1st December next?

5. An average grade cow weighs 1,000 lbs.; what (1) quantity and (2) cost of food will she consume in twelve months; how (3) long will she continue in Milk, what (4) quantity of milk in pounds per day; how (5) much cream from the milk; how much (6) butter from cream, and (7) how much cheese is usually got from the milk?

SECOND YEAR.

ARBORICULTURE.

Examiner: Wm. Brown, Esq.

1. What are the principal objects of conserving trees, and replanting certain parts of a country?

2. What special results would likely follow from the proper application of the science and practice in Canada?

3. What kinds of trees are specially adapted to (1) road side shade, (2) small clumps or belts, and (3) large plantations?

4. Sketch the general management of trees for a plantation, from the seed bed up to fifty years old.

5. Give a brief statement of the probable expense and revenue of a hundred acre plantation, up to fifty years old.

SECOND YEAR.

PRACTICAL HORTICULTURE.

Examiner: James Forsyth, Esq.

1. Describe the usual methods of heating greenhouses. State the respective uses of the Propagating House, the Greenhouse, and the conservatory. Give the minimum and maximum temperature suitable for each, also the usual means of regulating the temperatures.

2. Describe fully the process of propagating by cuttings, the materials required, and necessary conditions; also enumerate all the different modes that you know of increasing a stock of plants.

3. In the collection of plants before you, name—

(*a*) The monœcious plants.

(*b*) Those with endogenous stems.

(*c*) Those with perfect flowers.

EASTER EXAMINATIONS, 1884—Continued.

4. Make a selection of 10 half-hardy or bedding plants, giving the natural orders to which they belong; also a selection of 10 plants suitable for window culture, giving the technical and the common name of each.

5. What is understood by Annual, Biennial and Perennial plants? Give an example of each, with the common and the scientific name.

6. Describe the process of hybridizing. How it takes place in nature; how it may be accomplished artificially; for what purpose is it done; and how varieties are perpetuated.

7. Give the generic name of a plant illustrative of each of the following natural orders:—*Acanthaceæ*, *Brassicaceæ*, *Crassulaceæ*, *Fabaceæ*, *Malvaceæ*. *Polypodiaceæ* and *Scrophulariaceæ*.

8. Give the natural orders of the following genera:—*Labonia*, *Hoya*, *Gnaphalium*, *Eulalia*, *Dracæna*, *Cupressus* and *Solanum*.

9. Name what insects you know that attack inside plants, and describe the usual or best means of destroying them.

10. Identify the plants before you, giving the generic and common names of each.

(*a*) Name the orders to which they belong.

(*b*) Describe fully plants 4 and 9.

SECOND YEAR.

AGRICULTURAL CHEMISTRY.

Examiner: R. B. Hare, Ph. D.

1. Name the *ultimate* elements of the volatile and of the fixed part of plants, distinguishing those that are indispensable from those that are supplementary.

2. Explain the origin of the inorganic and organic constituents of soils.

(*i*) Classify the inorganic constituents, noticing briefly their composition, and the part each plays in forming soil-texture.

(*ii*) What relation does the mechanical texture of a soil bear to its fertility? To its absorbent and retentive power?

(*iii*) State briefly the objects, process, results, expense and profit of land drainage.

(*iiii*) When may the mixing, claying, liming, marling, chalking, paring, and burning of soils be used with advantage?

3. Explain the composition of farm-yard manure.

(*i*) What are the conditions that affect its composition and quality?

(*ii*) How, in your estimation, is farm-yard manure best managed and applied?

(*iii*) Why is *another* kind of natural manure, weight for weight, almost as good as farm-yard manure?

4. Describe the forms in which nitrogen, phosphorus, potassium and calcium are present in artificial manures.

(*i*) By what system of field experiments may the effects of fertilizers and the feeding capacities of plants be best studied?

(*ii*) Explain the form and source of the nitrogen that is conveyed from the atmosphere to the soil by rain.

EASTER EXAMINATIONS, 1884—Continued.

(*iii*) State briefly the conditions that favour nitrification and those that are adverse to it.

(*iiii*) Compare the results of bare fallow with those of green-manuring.

5. Describe briefly the characteristic composition and mode of feeding of cereal legumenous, and root crops.

(*i*) By what system of rotation and of manuring would you expect most economically to secure the best returns?

(*ii*) How does the nutrition of turnips, mangolds, and potatoes differ?

(*iii*) By the application of what manure may the quality, as well as the quantity of permanent pasture be advanced?

(*iiii*) How does *high manuring* influence the composition of all vegetable foods?

(*iiiii*) Name the foods richest and poorest in phosphoric acid, lime, and potash.

6. How have German investigators determined the digestibility of foods?

(*i*) Is the digestibility of food influenced by the age, daily ration, and labour of the animal, or by the maturity of the fodder crop at time of cutting.

(*ii*) Why should the addition of one food to a ration of wasteful digestion check the waste, and the addition of another to a ration of good digestion turn it into a wasteful one?

(*iii*) From the recent experiments of Wolff, draw a comparison between the digestive powers of horses and sheep.

(*iiii*) In comparing the nutritative value of foods, how would

(1) The proportion of water they contain,

(2) Their capacity of producing heat and work,

(3) Their proportion of albuminoids to non-albuminoids, influence your judgment?

(*iiiii*) Name the diet most suitable for maintenance, labour, fattening, and the production of wool and milk.

7. Clover, barley, straw, mangolds, linseed, bean meal, and unbolted rye are given you to fatten an ox.

COMPOSITION OF FODDER.

	Clover.	Barley Straw.	Mangolds.	Linseed.	Bean Meal.	Rye.
Water	16.0	14.3	88.0	11.5	14.5	14.3
Ash	5.3	4.1	0.8	7.9	3.1	1.8
Albuminoids	12.3	4.0	1.1	28.3	25.5	11.0
Crude fibre	26.0	40.0	0.9	11.0	9.4	3.5
Carbolydrates	38.2	36.2	9.1	37.3	45.9	67.4
Fat	2.2	1.4	0.1	10.0	1.6	2.0

Give, per 100 lbs. live weight, the daily ration of each constituent of the fodder you would use.

☞ The student can exercise a choice between questions 4 and 5.

EASTER EXAMINATIONS, 1884—Continued.

SECOND YEAR.

METEOROLOGY.

Examiner · R. B. Hare, Ph. D.

1. Explain the difference in structure between Fortin's and Adie's barometer.

(*i*) How is the correction for capacity avoided in each?

(*ii*) Give the correction for gravity depending on latitude and altitude.

2. Describe structure, mode of suspension, and mode of setting of the self-registering minimum thermometer in use at Canadian Stations.

3. How is the height of a mercurial column accurately measured.

4. Explain mode of reading Foster's anemometer.

5. Define and briefly describe each cloud in Luke Howard's classification of clouds.

6. Summarize the following observations :—

	Bar.	Max. T. Degrees.	Min. T. Degrees.	Ther. Degrees.	Rain.	Snow.
1	7 a.m.—28.245	....	....	44.6	2.05	5.6
	2 p.m.—29.143	....	....	23.4	.....	.....
	9 p.m.—29.378	45.3	7.6	17.8	.....	.....
2	7 a.m.—39.016	....	....	—5.8	.....	3.1
	2 p.m.—29.451	....	....	26.3	.....	.....
	9 p.m.—28.861	26.5	—8.4	—7.4	.....	.....
3	7 a.m.—28.005	...	....	11	1.5	.....
	2 p.m.—28.026	....	....	26	.....	.....
	9 p.m.—28.136	27.6	10.6	20	.....	.....
4	7 a.m.—28.799	....	....	24.0	.....	4.7
	2 p.m.—29.114	....	....	14.6	.....	
	8 p.m.—29.578	24.3	—9.7	—9.3	.....	

7. Read the instruments before you.

SECOND YEAR.

ENTOMOLOGY.

Examiner: J. Playfair McMurrich, M.A.

1. Describe the modifications of the wing in Insects. Name some wingless forms.

2. What is Pathenogensis? Mention any form exhibiting phenomenon and give its life-history.

EASTER EXAMINATIONS, 1884—Continued.

3. Gall-flies. Name the families and orders which include these forms. Describe their habits.

4. Describe the Hessin fly. Give a full account of its life-history.

5. Name the characters of the *Curculionidæ*, and give the life-history and remedies for *Conotrachelus nenuphar.*

6. Name the order to which each of the following forms belongs, state whether it is beneficial or injurious, and if injurious what plant it affects:—*Leucani, unipuncta, Aphidius, Clytus speciosus, Coccinella, Coreus tristis.*

7. Describe the habits of, and remedies for, *Agrotis Cochrani.*

8. *Orgyia leucostigma,* Describe the larva and its habits.

9. Describe the larva before you, giving also a description of its imago, its habits and the remedies to be applied for its destruction.

SECOND YEAR.

EQUINE AND BOVINE PATHOLOGY.

Examiner: F. C. GREENSIDE.

1. Mention the diseases of the feet of the horse, and give treatment for Corns and Thrush.

2. Mention the diseases of the hock of the horse, and give the symptoms of bone-spavin.

3. Give the nature, causes, symptoms and treatment of Foul-in-the-foot of Cattle and Foot-rot in sheep.

4. Mention the four indications in the treatment of wounds, and how each is to be carried out.

5. Give the nature, causes, symptoms, and *post-mortem* appearance of Bovine Tuberculosis.

6. Give the abnormal conditions of the teeth usually found, and symptoms of imperfect mastication.

7. Mention the diseases of the eye, and give symptoms and treatment of "Simple Ophthalmia."

8. Give the symptoms of Tympanitis and Impaction of the Rumen in Cattle.

9. Give the causes and treatment of Poll-Evil and Fistulous Withers.

10. Give the differential symptoms of Spasmodic Colic and Enteritis.

PRACTICAL HORSE.

Examiner: F. C. GRENSIDE, V.S.

1. For what purpose are horses shod? Describe the most rational kinds of shoes, and the principles that ought to be observed in the application of them.

2. Describe how to put a horse in slings, and state the objects to be effected by slinging.

3. Describe minutely how to perform Rumenotomy.

4, Describe how to perform Neurotomy, and state when the operation is indicated.

5. Describe the different means of restraining a horse for an operation, also those for a cow.

EASTER EXAMINATIONS, 1884—Continued.

SECOND YEAR.

JULIUS CÆSAR.

Examiner: S. C. Smoke, B.A.

1. Wherefore rejoice? What conquest brings he home?
What tributaries follow him to Rome
To grace in captive bonds his chariot wheels?
You blocks, you stones, you *worse* than senseless things,
O, you hard hearts, you cruel men of Rome,
Knew you not Pompey? Many a time and oft
Have you climbed up to walls and battlements.
To towers and windows, *yea*, to chimney-tops,
Your *infants* in your arms, and there have sat
The live-long day, with patient expectation,
To see great Pompey *pass* the streets of Rome:
And when you saw his chariot *but* appear,
Have you not made an universal shout,
That Tiber trembled underneath her banks,
To hear the replication of your sounds
Made in her concave shores?
And do you now put on your best attire?
And do you now cull out a holiday?
And do you now strew flowers in his way
That comes in triumph over Pompey's blood?
Be gone.

(*a*) Parse the words italicized.

(*b*) Compare the use of the past tense and the present-perfect tense in this extract.

(*c*) Indicate the pronunciation of *live-long* and *long-lived.*

(*d*) *To grace*, &c. Explain the allusion.

(*e*) *An universal.* Distinguish, as to their use, the forms *an* and *a.* Explain their origin.

(*f*) *And do you now.* Name the figure of rhetoric here employed. Remark upon the effect.

2. Explain the connection in which the following extracts occur:—

(*a*) I rather tell thee what is to be feared
Than what I fear, for always I am Cæsar.

(*b*) For if thou put thy native semblance on
Not Erebus itself were dim enough
To hide thee from prevention.

(*c*) * * * Live a thousand years
I shall not find myself so apt to die.

3. Give briefly in your own words the story of the play of Julius Cæsar.

4. From what source did Shakespeare obtain the materials for his Richard II.?

5. Myself I throw, dread sovereign, at thy foot:
My life thou shalt command, but not my shame:
The one my duty owes; but my fair name,
(Despite of death, that lives upon my grave),

EASTER EXAMINATIONS, 1884—Continued.

To dark dishonour's use, thou shalt not have.
I am disgraced, impeached, and baffled here;
Pierced to the soul with slander's venom'd spear;
The which no balm can cure, but his heart-blood
Which breathed this poison.

(*a*) Point out and explain any figures in this extract.

(*b*) By whom is this passage spoken, and under what circumstances?

(*c*) Give a scale of the metre.

6. Name the "unities," and show to what extent they are observed by Shakespeare.

7. Discuss briefly the characters of Brutus, Anthony, and Richard II., as drawn by Shakespeare, illustrating your statements by references and short quotations.

(*a*) Give in order a list of the Plantagenets proper, stating in a word what the reign of each was noted for.

8. Mention any theory which has been advanced in opposition to the generally accepted one as to the authorship of the Shakesperian plays.

9. Complete the following quotations:—

(1.) "Let me have men about me that are fat
* * * to be moved to smile at anything."

(2.) "'Tis meet
* * * * * * be seduced."

(3.) "Lowliness is young ambition's ladder,
* * * * by which he did ascend."

(4.) "O, conspiracy, &c.

(5.) "I am no orator, as Brutus is
* * * You yourselves do know."

(6.) "His life was gentle, &c.,
* * * 'This was a man.'"

(7.) "This royal throne of kings * *
* * * * a pelting farm."

SECOND YEAR.

POLITICAL ECONOMY.

Examiner: W. M. Douglas, B.A.

1. Name the four divisions of this subject.

2. To which of these subdivisions do the following facts belong?
Labour is a source of wealth.
Rent is the landlord's share of the product.
Scarcity raises the price.
There is an increasing tendency to division of labour.
Producers endeavour to locate their industries in the most suitable locations.

3. Water. (1) Under what circumstances has it no exchange value, and (2) under what circumstances has it exchange value? (3) Are the people of a community richer when water has exchange value, or are they poorer?

4. Value depends on three conditions. What are they?

(*a*) State relation between value and quantity. Give illustration.

EASTER EXAMINATIONS, 1884—Continued.

5. To make labour most productive, the three methods are : apply labour at the best time, in the best place, in the best manner.

(*a*) Will people observe these methods spontaneously, or must the law of the land enforce their observance with penalties ?

(*b*) Name any law of any country that interferes with these methods.

(*c*) Name also any rule of Trades' Unions that interferes with these methods.

6. Division of Labour :—

(*a*) What causes lead to division of labour ?

(*b*) Division of labour leads to exchange of commodities. What means are adopted to facilitate these exchanges ?

(*c*) What laws in any country try to stop exchanges ?

(*d*) In division of labour, what disadvantages are to be guarded against ?

7. Distribution of wealth :-

(*a*) Name the four parts in the distribution.

(*b*) Which part tends to increase continually, and which to diminish ?

(*c*) Distinguish the common meaning of "rent" from the limited meaning in Political Economy.

(*d*) Distinguish nominal and real wages.

8. Name some common fallacies in Economics.

9. By what methods can the condition of labourers be improved ?

10. In the employment of machinery, resorting to the best locations, working at the best time and in the best manner, what is the object aimed at ?

11. Mention any principles in Political Economy that may be illustrated by the following examples :—

A postman.
A cook.
A locomotive.
Two or three men lifting a weight.
A printing press.
A town clock.
A joint stock company.

12. Name any laws Canada that interfere with the distribution of wealth.

SECOND YEAR.

MECHANICS.

Examiner : E. L. Hunt.

1. Define acceleration ; what is meant by saying with reference to gravity "g" = 32 ? Why does a ball of lead fall to the ground more quickly than a feather ?

A balloon is moving horizontally through the air at the rate of 30 miles an hour, and a stone projected vertically downwards from it with a velocity of 10 feet a second, reaches the ground in four seconds.

(*i*) What is the height of the balloon ?

(*ii*) How far has it travelled during the passage of the ball ?

EASTER EXAMINATIONS, 1884—Continued.

(*iii*) Through what distance has the ball passed?

(*iiii*) How far has the ball travelled during each second?

2. Define force, and show that forces may be properly represented by straight lines. State Newton's Second Law of Motion, and show clearly how you deduce from it the principle of the parallelogram of forces.

3. One body whose mass is 20 lbs. and velocity 40 feet a second, overtakes another whose mass is 18 lbs. and velocity 35 feet a second. Find the velocity of the two moving together after impact. (*b*) Find the velocity if the bodies meet.

4. Define work. Explain how work done is measured, and hence show that a great weight may be lifted by the application of a very small power; illustrate by a reference to any three of the simple machines.

5. Distinguish the three kinds of levers and give an example of each; explain why in some cases it is desirable to place the weight in a wheelbarrow nearer the handles and in other cases nearer the wheel. Which has an easier draught, a large diametered or small diametered field roller of equal weight? Why? A scaffold-pole 60 feet long balances on a log put under it 35 feet from one end, and it also balances on a log put under its centre, when a boy weighing 90 lbs. is sitting on it at one end and a man weighing 160 lbs. at the other. Find in round numbers the weight of the pole.

6. Describe the screw. If the distance between the threads of a screw be $\frac{1}{8}$ inch, and a force of 10 lbs. be applied at the end of an arm two feet long, fixed to the centre of the circumference of the screw, what pressure can be produced?

7. (*a*) A heavy body is supported on a smooth inclined plane by a force acting parallel to the base of the plane; show clearly what forces act on the body to keep it at rest.

(*b*) A body weighing 200 lbs. is supported on a smooth plane, inclined at an angle of 30° to the horizontal, by a power acting parallel to the base of the plane. Find the magnitude of the power.

(*c*) If a power of 100 lbs., acting parallel with the base of the plane, is required to support the weight when the plane is inclined at an angle of 45°, what power will be required when the plane is inclined at an angle of 30°.

(*d*) With the conditions given in (*c*) find, by the resolution of forces, the magnitude of the power if it acts parallel with the plane.

8. Two cylindrical communicating vessels contain water; the diameter of the one is two feet and of the other one inch. If the larger is fitted with a piston, what weight may be supported on this if the water in the smaller is two feet higher than in the larger?

9. Explain by diagrams the working of the suction pump, forcing pump and siphon.

SECOND YEAR.

DRAINING.

Examiner: E. L. Hunt.

1. Three things are essential for the germination of the seed: air, heat and moisture. explain fully how soils in a proper condition supply these requisites, and why underdraining is in many cases necessary to place the soil in such condition.

2. Write fully on the following:—

(*a*) "Drained lands will stand drought better than undrained."

(*b*) "Underdraining pulverizes the soil."

EASTER EXAMINATIONS, 1884—Continued.

3. (*a*) Describe the movement of water in the soil from the time it falls on the ground till it enters the tiles. (*b*) Are we hence furnished with any data to determine the relative depth and distance apart the drains should be placed? (*c*) At what general depth would you lay your drains? State a few circumstances that might make it necessary to depart from the general rule.

4. Write briefly on (*a*) the fall required in tile drains; (*b*) the size of tile to be used in mains and laterals.

5. Given, there are 4,840 square yards in an acre, and that each tile is one foot long. Estimate the number of tiles needed to drain a 10 acre field. State the distance between the drains on which you base your calculation.

SECOND YEAR.

BOOK-KEEPING.

Examiner: E. L. Hunt.

1. What is meant by a trial balance?
2. Explain how you would close the ledger.
3. Make out, and close, an account with a wheat field of 10 acres.
4. What accounts would be affected and how by the following entries:—
   (*a*) Paid J. Cook and R. Beatty $9.00 each for one week's labour in harvesting.
   (*b*) Lost my pocket-book containing $160.
   (*c*) The pocket-book was returned to me a few days after, when I gave the finder $10.00.
   (*d*) Gave $8.00 to relief fund for neighbour.
   (*e*) Buggy horse killed by accident,—valued in inventory at $125.00.
   (*f*) Bought another horse for $160, giving two tons hay and the balance cash $138.00.
   (*g*) Bought a lamp to replace a broken one, $2.00.
   (*h*) Bought 20 acres of land adjoining my farm at $45.09 an acre, giving $300.00 cash, and my note at 7 months for remainder.

Special Live Stock and Veterinary Class.

CATTLE.

Examiner: Wm. Brown, Esq.

1. What is wanted to complete the following pedigree; to what breed and particular "blood" does it refer; and what is its value comparatively?

LOUAN OF GUELPH.

Red, bred at O. E. Farm; calved 4th May, 1877.

Got by 3rd Duke of Springwood [3087], 16926.
Louan of Brant 5th " Knight of St. George (26544)..... Mr. Carr, England.
Louan of Brant 2nd " Crown Prince of Athelstane (1507) 5487 ..... J. Douglas, Scotland.

EASTER EXAMINATIONS, 1884—Continued.

Louan 17th	Got by	Duke of Airdrie	Major J. Duncan.
Louan 3rd	"	John O'Gaunt (11621)	Mr. J. S. Tanqueray.
Louan 1st	"	Otley (4632)	Mr. Fawkes.
Cambria	"	Bertram 2nd (3144)	Col. Powell.
Virginia 2nd	"	Bertram (1716)	Mr. Whitaker.
Lucilla 2nd	"	Memnon (1223)	Mr. Whitaker.
Virginia	"	General (272)	General Simpson.
Rosemary	"	Flash (261)	Mr. Gibson.
Redrose	"	Petrarch (488)	Mr. C. Collings.
Brighteye	"	Alexander (22)	Mr. C. Collings.

2. The Hereford and Dutch breeds take an equal value by our scale; name five of the principal points for and against each that go to establish such a position.

8. In what do the Aberdeen Angus-Poll and Galloway differ as stall feeders and graziers, and to what extent does their general value differ?

4. In the full study of milking breeds wherein do the Ayrshire and Jersey present little or no difference?

5. Wherein does the general stamp of a beefer and of a milker agree and differ?

6. What is likely to be the financial standing of a steer that weighed 1,000 lbs. when tied up on 1st October last, and promised to be fit for shipping on 1st June next? Give full particulars.

7. In our experimental feeding of cattle with grain during the past winter what have been the principal indications?

SPECIAL LIVE STOCK AND VETERINARY CLASS.

SHEEP.

Examiner: WM. BROWN.

1. Sketch the history of the Leicester and South Down breeds.

2. Give a full account of the breeding, the particular build and characteristics of the Oxford Down.

3. Classify wool, and give your opinion of the two samples herewith, indicating to what breed or grade they belong.

4. Discuss briefly the relative merits of the Shrops and South Down for Ontario conditions.

5. What is the best management of a flock of ewes from 1st of February until grass?

6. What are the objects of dipping sheep?

SPECIAL LIVE STOCK AND VETERINARY CLASS.

LIVE STOCK.

Examiner: P. J. WOODS.

1. Give number of ewes rams should serve at following ages:—One, two, and three years old.

2. Describe the signs of lambing in ewes, giving the necessary treatment at this important time. At what age should castration and docking take place? Explain the method.

EASTER EXAMINATIONS, 1884—Continued.

3. Give the essential points in a well-bred Berkshire pig. What breeds of pigs have a tendency to early maturity? What are the advantages derived from such breeds?

4. How should a pen be prepared for a sow about to pig? Give treatment of sow and her pigs to time of weaning.

5. Give the methods of feeding calves for the following purposes:—(1) A calf for the butcher to be sold at six weeks old. (2) A steer to be sold at thirty months old; give time of castration. (3) A calf to be raised for breeding purposes.

SPECIAL LIVE STOCK AND VETERINARY CLASS.

STOCK BREEDING (MILES).

Examiner: JOHN HOBSON, ESQ.

1. What was the system which Bakewell practised as a breeder, and what has been the aim of the most successful breeders since his time?

2. State in what way the method which he followed differed from that of the breeders before his time.

3. What is the most important consideration in estimating the value of animals?

4. Upon what does the relative value of animals depend?

5. On what is the modern art of breeding founded

6. State what is meant by the "law of heredity."

7. Name some of the diseases that illustrate the laws of hereditary transmission.

8. State what is meant by "Atavism," and illustrate its leading features.

9. In what way have the distinguishing characteristics of the various breeds of animals been mainly produced?

10. What are the principal causes of "animal variation?"

11. How has the great development in fattening quality and in early maturity, that characterizes the modern meat-producing breeds of cattle and sheep, been secured?

12. How is the greater fecundity of domesticated varieties of birds and other animals, as compared with that of wild species, accounted for?

13. For what purpose have the most eminent breeders of modern times practised close breeding?

14. In the improvement of a breed, what does in-and-in breeding tend to produce?

15. Explain what is meant by the term "prepotent" as applied to the breeding of animals.

16. What is one of the most valuable characteristics which a male can possess?

17. Is in-and-in breeding necessarily associated with a delicacy of constitution? Discuss this question.

18. What is meant by "cross-breeding"? Illustrate.

19. State some of the advantages of "cross-breeding," and also what you consider of the greatest importance when breeding in this way.

20. Supposing both parents to be equally well bred, is there a preponderance of influence on account of sex? Explain.

21. What is a "pedigree"?

EASTER EXAMINATIONS, 1884—Continued.

22. What are the characteristics of special importance which are always found in animals belonging to the best developed meat-producing breeds?

23. In the improvement of grade stock, what rules will be found the safest guides in practice?

SPECIAL LIVE STOCK AND VETERINARY CLASS.

"FEEDING OF ANIMALS" (STEWART).

Examiner: CHAS. DRURY, M.P.P.

1. Define the terms *nutrient* and *ration.*

2. Write a short article on the composition, properties, and uses of the *nitrogenous* and *non-nitrogenous* constituents of fodders and roots.

(1.) Write short notes on the *nature and digestibility of cellulose, inorganic nutrients*, and *respiratory food.*

(2.) "It becomes evident that the health of animals cannot be sustained without mixed diet." Name the classes of substances which a proper diet should contain, and state what is the special use of each class.

3. From experiments made at the Michigan Agricultural College and at Rothamsted, England, on cattle feeding, state—(1) the age at which animals can be most profitably fed, giving reasons; (2) the composition of the food that produces the best results.

4. What is meant by the term *nutritive ratio*?

(1.) On what basis does Dr. Wolff estimate the money value of feeding stuffs in Germany?

(2.) Institute a comparison between the nutritive values of the following waste products of manufacturing establishments: corn starch feed; brewers' grains; malt sprouts; and fish scrap.

5. Give a synopsis of the economic advantages of the soiling system.

(1.) From the reports of the English and American feeders, state briefly the effects of soiling on the production of milk and of meat.

(2.) How would you answer the objection as to the labour involved in soiling?

6. Make for calves three rations about as nutritious as new milk,—(1) from *skim milk*, (2) from *whey*, (3) from *hay tea.*

7. State the leading facts established by the experiments at the Chicago Fat Stock Shows on the *rapidity* and *cost* of growth and the quality of the beef grown, with animals of different ages.

8. Give the nutritive ratio to be observed in feeding:—

(1.) Oxen at rest in stall.
(2.) Oxen heavily worked.
(3.) Fattening oxen.
(4.) Cows giving milk.
(5.) Young cattle.

9. Write short notes on the size, food, and management of dairy cows.

10. State briefly the author's views on:—

(1.) Early maturity in sheep.
(2.) Selection of sheep for breeding.
(3.) Food, feeding, and management of ewes in winter.
(4.) Feeding and management of young lambs.

EASTER EXAMINATIONS, 1884—Continued.

SPECIAL LIVE STOCK AND VETERINARY CLASS.

VETERINARY OBSTETRICS.

Examiner: F. C. GRENSIDE, V. S.

1. Describe the fœtal envelopes and fluids, and give their functions.

2. Give the origin and course which the spermatozoa and ova have to travel before they can come in contact.

3. Give the periods which elapse between heat in the mare, cow, ewe, sow and bitch, and give the periods of the gestation in these animals.

4. Give the causes of sterility.

5. Give the signs of pregnancy.

6. Describe the uses of cords and the repeller, and the best method of applying traction in parturition.

7. State how to discriminate between the hind and fore-legs *in utero*, and describe the normal presentation.

8. Describe the *modus operandi* for removing the fore-limb and viscera of fœtus.

9. Give indications for delivery in the following cases: hock presentation, fore-legs bent at knees, and deviation of head towards the shoulder.

10. Give treatment for retention of fœtal envelopes.

SPECIAL LIVE STOCK AND VETERINARY CLASS.

LAW'S VETERINARY ADVISER.

Examiner: F. C. GRENSIDE, V. S.

1. Give the different names that are applied to "Sturdy" in lambs, also the cause of the condition; and how the cause is brought into operation. Give the symptoms of the disease.

2. What causes Measles in swine, and what would result from the consumption of meat from animals so affected, by human beings?

3. During or after what kind of weather would attacks of Ergotism be expected, and give the symptoms of the Gangrenous form?

4. What does the condition termed Goitre consist in, and how does it differ in appearance in Solipeds from other animals? Give treatment.

5. Give the causes and treatment of Purpura Hœmorrhagica.

III. PAPERS SET AT THE MIDSUMMER EXAMINATIONS, 1884.

FIRST YEAR.

AGRICULTURE.

Examiner: JOHN MCMILLAN, ESQ.

1. Give a detailed description of the best methods of preparing land for crops of fall wheat, spring wheat, barley, oats and peas respectively.

MIDSUMMER EXAMINATIONS, 1884—Continued.

2. Why is a rotation of crops necessary? Give a statement of the principal advantages which result from a good rotation

(*a*) Is a fixed rotation possible or desirable in this Province? Give reasons for your answer.

3. What are the special advantages which result from fall cultivation, and how do you account for them?

4. Enumerate the advantages which result from summer-fallowing and describe briefly what you consider the best method of managing a fallow so as to secure the best results.

5. State fully and account for the beneficial results of thorough underdraining.

7. Write notes on the breeds of dairy cattle which are best adapted—
(1) For cheese-making.
(2) For butter-making.
(3) For mixed farming.

First Year.

GEOLOGY.

Examiner: R. B. Hare, Ph. D.

1. Distinguish between practical, theoretical, and applied Geology.

2. Give crystallographic form and chemical composition of the minerals Dolomite, Gypsum, Rock Salt, Fluorite, Pyrite, Mica, Oligoclase, Hematite, Apatite, and Quartz.

3. Briefly describe the following mineral varieties, naming the mineral to which each belongs:

Amethyst, Sahlite, Cat's Eye, Actinolite, Aventurine, Tremolite,
Meershaum, Chalcedony, Satin Spar, Agate, Selenite,
Flint, Asbestus, and Jasper.

4. The minerals Hornblende, Pyroxene, Calcite, Gypsum, Magnetite, Hematite, and Limonite are placed before you, how would you proceed to determine each of them?

5. Give the mineralogical and chemical composition of Doleritic Lava, Trachytic Lava, Felsite, Gneiss, Mica Schist, and Marble. How do metamorphic rocks differ from aqueous?

6. Define layer, stratum, formation, seam, joints and slatly cleavage, dip, strike, outcrop, anticline, syncline, fault, unconformability and denudation.

7. Name the Systems into which the Palæozoic Period has been divided, briefly outlining the Series that occur in Ontario. In which series is the "Oil District" situated?

8. In what respect does the Coal of the Eastern Provinces differ from the Lignite of the Western Territories? What is the coloring matter of rocks?

9. Briefly describe the more important geological facts which the practical examination of the rocks about Guelph gave you.

10. Name and briefly describe the minerals, rocks, and fossils before you.

First Year.

STRUCTURAL AND PHYSIOLOGICAL BOTANY.

Examiner: J. Playfair McMurrich, M.A., F.R.M.S.

1. Name and describe the formation of the principal non-nitrogenous organic substance found in vegetable cells.

MIDSUMMER EXAMINATIONS, 1884—Continued.

2. Describe and state the use of stomata.

3. How do plants grow in thickness and in height?

4. Describe the structure of an ovule, and the process of fertilization of it.

5. What changes result from the fertilization of the ovule?

6. Define the following terms, giving examples:—(*a*) drupe, (*b*) dimorphous, (*c*) palmate, (*d*) raceme, (*e*) rhizome.

7. Describe accurately the processes by which sap is formed.

8. What is meant by the respiration of plants? What does it effect?

9. Describe the action of light on plants.

First Year.

VETERINARY MATERIA MEDICA.

Examiner: F. C. Grenside, V.S.

1. Under what four heads are the general actions of medicines considered?

2. Mention the circumstances which modify the actions of medicines.

3. Define the following terms,—disinfectant, caustic, tonic, ecbolic, and give an example of each.

4. Give the name by which aconite is known, and its actions, and doses for the horse.

5. When is aloes contra-indicated.

6. Write out a good febrifuge mixture.

7. What is the dose of aniseed for horses and cattle, and mention some other agents that resemble it in its actions?

8. Describe a means of getting rid of tape-worms from dogs.

9. What is the chief use of cantharides, and how is it prepared for application?

10. What is carbolic acid prepared from, and how much water does it take to dissolve it?

First Year.

ENGLISH LITERATURE.

Wordsworth's Excursion.—Book I.

Examiner: E. L. Hunt.

(*a*) 1. * * Or he at my request would sing
2. Old songs, the *product* of his native hill;
3. A skilful *distribution* of sweet sounds,
4. Feeding the soul, and eagerly *imbibed*
5. As cool refreshing *water*, by the care
6. Of the industrious husbandman, diffused
7. Through a parch'd meadow-ground, in time of drought.
8. Still deeper *welcome found* his pure discourse:
9. How precious when in riper days I learned
10. To weigh with care his words!

MIDSUMMER EXAMINATIONS, 1884—Continued.

(*b*) 1. * * * * *From* his intellect
2. And from the stillness of abstracted thought
3. He asked repose; and, failing oft to win
4. The peace required, he scanned the laws of light
5. Amid the roar of torrents, where they send
6. From hollow clefts up to the clearer air
7. A cloud of mist, *that smitten* by the sun
8. Varies its rainbow hues. But *vainly* thus.
9. And vainly by all other means, he strove
10. To mitigate the fever of his heart.

1. To whom does each of the above passages refer?

2. (*a*) Parse all the words in italics.

(*b*) Give the derivation of the following words:—*Repaired* ("repaired to a school"), *repair* meaning to mend; *prospects, pensive, sequestration, pedlar, bounties, gait, appendage, humour, enormous.*

3. Point out all the figures of speech in (*a*).

4. Write a paraphrase of (*b*) so as to bring out clearly the meaning of the passage.

5. What was the cause of "the fever of his heart?"

6. Scan lines 2, 4 and 6 in (*a*), and 8 and 9 in (*b*). Name the metre, and point out any peculiarities.

7. Sketch the life and character of the Wanderer, as given in this poem. (*b*). What were the three elements of his education?

8. What are the defects of the story, related in the first book of the Excursion?

9. "Had Wordsworth displayed the same comprehensiveness in dealing with man as with nature, his genius would not have been so long ignored." Discuss this statement.

How did he deal with nature, and how with man?

Illustrate by quotations from any of his poems. Was Wordsworth a pantheist? How would you explain those passages which seem to indicate that he was? Explain the meaning of the term "Pathetic Fallacy."

10. Mention some of the leading contemporaries of Wordsworth, also any historical events of importance that occurred during his life.

FIRST YEAR.

COMPOSITION.

Examiner: JAMES MILLS, M.A.

1. Give the rules for punctuating—

(1) Adverbial phrases.
(2) Participial phrases.
(3) Adjective clauses.
(4) Compound sentences.

2. Combine the following statements—(*a*) into a simple sentence and (*b*) into a compound sentence; and punctuate each carefully:

(*a*) Bruce sent two commanders.
The war between the English and Scotch still lasted.
He sent the good Lord James Douglas.

MIDSUMMER EXAMINATIONS, 1884—Continued.

He also sent Thomas Randolph, Earl of Moray.
These men were great commanders.
They were to lay waste the Counties of Northumberland and Durham.
They were to distress the English.

(*b*) On the scaffold his behaviour was calm.
On the scaffold his countenance was unaltered.
He spent some time in devotion.
Afterwards he suffered death.
He died with intrepidity.
This intrepidity became the name of Douglas.

3. Write a short composition on "my native place," or "my schools and schoolmasters," paying special attention to punctuation and the use of capitals.

First Year.

MENSURATION.

Examiner: E. L. Hunt.

1 (*a*) How many boards, each 10 feet long, are required to enclose a field of 10 acres, if it be 100 yards wide?

(*b*) How many are required if the field be square?

2 How many miles will a team walk in ploughing 12 acres, the width of the furrow being 8 inches?

3 A barn is 60 feet long and 30 wide; find the cost to cover the roof (common pitch) with slates which cost $4.00 a hundred, and each of which has an exposed furface of 12 inches by 9 inches.

4 In question 9, if each cylinder is 25 inches high and has a diameter of $12\frac{1}{2}$ inches, how many gallons will it hold?—(a gallon contains 277,274 cubic inches.)

5 (*a*) If ditches be dug on both sides of a road, each 6 feet 6 inches wide at the top, and 1 foot wide at the bottom, and if the excavation be put on the road to the width of 20 feet, how high will the road-bed be raised, allowing that the earth will shrink 1-9th of its bulk in embankment?

(*b*) Find the cost of gravelling $1\frac{1}{2}$ miles of road to the depth of 10 inches and width of 15 feet, if 5 men and 2 teams are employed, each man to receive $1.10, and each team $1.50 a day, and if each team hauls 9 loads per day, the waggon being 12 feet long, 3 feet broad, and 10 inches high.

6. A stick of timber 49 feet long is in the form of a frustum of a cone, the circumference of the ends being 22 feet and $17\frac{1}{2}$ feet respectively. Find the number of feet it contains.

(*a*) By the exact rule.
(*b*) By the approximate rule.
(*c*) Find, by the exact rule, the size of the largest squared stick of timber that may be cut from it.

7. Explain clearly how the height of an object or the breadth of a stream may be found if the base, but not the top, of the object is accessible, and only one bank of the stream.

8 (*a*) The area of the Yorkshire coal field is $937\frac{1}{2}$ square miles, and the average thickness of the coal is 70 feet. If a cubic yard of coal weigh a ton, and the annual

MIDSUMMER EXAMINATIONS, 1884—Continued.

consumption of coal in England be 70,000,000 tons, find the number of years for which this coal field alone would supply Great Britain with coal at the present rate of consumption.

(*b*) Suppose the coal consumed in one month in England were formed into a square pyramid on a base equal to that of the great pyramid of Egypt (base is 764 feet in length); find the height of the pyramid which would be thus formed.

9. The rain gauge in the experimental field has an area of $\frac{1}{1000}$ of an acre; the rain is collected below into 3 cylinders connected with each other by tubes at the top. If each cylinder is 25 inches high, and the area of its base 125.4528 square inches.

(*a*) Determine the amount of rain-fall required to fill the 3 cylinders.

(*b*) If there be a rain-fall of $\frac{3}{4}$ of an inch, how will the water show in the gauge cylinders?

(*c*) On May 16th, the water stood 9 inches high in the first cylinder. Determine the amount of rain-fall.

(*d*) On June 10th, there was a rain-fall of 0.082 inches. How high was the water in the cylinder?

SECOND YEAR.

AGRICULTURE.

Examiner: JOHN McMILLAN.

1. What breed of heavy-draught horses is best suited for crossing with our Canadian mares? Give a full statement of the reasons for your answer.

2. Show which is the most profitable to raise—horses or steers, both to be sold when three years old.

3. Describe the treatment of a colt from the time it is foaled till it is one year old.

4. What breed of cattle is best adapted to general mixed farming in this Province, and why?

5. Describe systematically and fully the best methods of preparing land for *fall wheat*, *spring wheat*, *barley*, *oats*, *peas*, *potatoes*, *and turnips*, respectively.

6. *When*, *in what condition*, and *how* would you apply farm-yard manure (1) *to stiff clay*, (2) *to sand soil*, and (3) *to loam*.

(*a*) Enumerate the most common causes of loss in the management of farm-yard manure, and state how such losses may be avoided.

7. Explain how it is that drained land is warmer and mellower than undrained land.

SECOND YEAR.

HORTICULTURE.

Examiner: JOHN PLAYFAIR McMURRICH, M.A., F.R.M.S.

1. Describe the fruit-branches of the Apple and Currant.

2. Propagation by cuttings. Give a complete account of the process, describing any variations of it indicating the requisites for a successful operation.

3. State the objects to be obtained by Grafting. Explain, physiologically, the operation and its results.

MIDSUMMER EXAMINATIONS, 1884—Continued.

4. What are the physiological causes of fruiting? How may they be made to act?

5. Mention the points to be attended to in pruning a tree to promote equal vigour in all its branches.

6. What is "mulching?" What are its uses?

7. Draw up a list of apples suitable for cultivation in the neighbourhood of Guelph, briefly describing each variety named.

SECOND YEAR.

ANALYTICAL CHEMISTRY.

Examiner: R. B. HARE, PH. D.

I. PART.—Lecture Room: Time, two hours.

1. Explain the terms:—Evaporation, precipitation, decantation, filtration, reagent, and reaction.

2. Separate and test the members of Group III. Formulate each reaction.

3. How would you separate—

(*i*) Ag from Hg, in solutions of nitrates.

(*ii*) Ca from Mg, in solutions of chlorides.

(*iii*) K from Na, in solutions of carbonates

4. Formulate the chemical action that occurs when—

(*i*) Alkali hydrates are added to solutions of zinc salts.

(*ii*) Solube carbonates to solutions of alum and of zinc.

(*iii*) Hydrochloric acid and ammonium hydrate to solution of mercurous compound.

(*iiii*) Ferrous sulphate and sulphuric acid to solutions of a nitrate.

(*iiiii*) Potassium ferroyanide to solution of a ferric compound.

(*iiiiii*) Sulphide of arsenic is treated with ammonium sulphide.

(*iiiiiii*) Potassium chromate with hydrochloric acid and sulphuretted hydrogen.

(*iiiiiiii*) Soluble arsenites with copper acetate.

(*iiiiiiiii*) Chromic hydrate is fused on platinum foil with sodium carbonate and potassium nitrate.

5. Explain the chemistry of Marsh's test for *Arsenic*.

II. PART.—Laboratory: Time, two hours.

Determine the metals and acids present in solution—

No. I., No. II., and No. III.

SECOND YEAR.

SYSTEMATIC AND ECONOMIC BOTANY.

Examiner: J. PLAYFAIR MCMURRICH,, M.A., F.R.M.S.

1. Give an account of the life history of the Black Knot fungus (*sphæria morbus*).

2. Describe the mode of reproduction in Ferns.

MIDSUMMER EXAMINATIONS, 1884—Continued.

3. From what plant is sugar principally obtained? State the mode of preparation of sugar, and the distribution of the plant.

4. Name our principal trees which will yield valuable wood, stating the order to which each belongs, and the general character of its wood.

5. Name the principal plants belonging to the order *Solanaceæ*, stating the use of each.

6. Describe the preparation and manner of occurrence of Tea, Coffee, and Cocoa.

7. State the characters of the order *Umbelliferæ*, naming some of the more important plants belonging to it.

8. State the characters of the order *Rosaceæ*, naming and briefly describing some of the important plants belonging to it.

9. Name the native species of *Vitis*, stating the principal cultivated varieties derived from each.

SECOND YEAR.

VETERINARY MATERIA MEDICA.

Examiner: F. C. Grenside, V. S.

1. Give the preparation and properties of chloroform, also the dose for the horse when given by the mouth, and its veterinary uses.

2. Give the dose of cinchona, quinine, and cinchonine for the horse, and state how the two latter differ from the former in action.

3. Mention the different names by which sulphate of copper is known, and give its action on carnivora.

4. Mention the diseases of the feet in which sulphate of copper is useful, and describe the different modes of applying it.

5. Give three formulæ for purgative doses for the ox.

6. Describe a means of expelling tape-worms from lambs.

7. Describe a process of medication for diarrhœa.

8. What is conine the active principal of, and how does it act in poisonous doses?

9. What is the best medicinal agent for the cure of goitre?

10. Which is the most effective diaphoretic for horses?

SECOND YEAR.

VETERINARY OBSTETRICS.

Examiner: F. C. Grenside, V. S.

1. Describe the arrangement of the umbilical cord and umbilical vesicle, and mention their functions.

2. Mention the changes that take place in both sexes on the arrival of puberty.

3. What is the greatest length of time that heat lasts in any of the domesticated females, and in which species does it last the longest, and which the shortest?

4. Mention the known causes of sterility.

5. What are the causes of parturition?

6. What are the forces that expel the fœtus?

MIDSUMMER EXAMINATIONS, 1884—Continued.

7. How long does parturition usually occupy in the mare and cow, and how long may the usual terms be extended, and still a living fœtus be produced?

8. Describe the proper manner of applying traction in difficult parturition.

9. Compare the relative difficulty of giving aid in the delivery of a calf and foal, and the reasons for the same.

10. Give the indications for delivery when one fore-leg is completely retained, and when the hocks are presented.

SECOND YEAR.

ENGLISH LITERATURE.

MILTON'S *L'Allegro* AND *Il Penseroso.*

Examiner: S. C. SMOKE, B. A.

1. Compare these two poems.

2. "Milton is not a man of the fields, but of books. * * He does look at nature, but he sees her through books." Discuss this statement, and illustrate by references to these poems.

3. Straight mine eye hath caught new pleasures
Whilst the landscape round it measures?
Russet lawns, and fallows gray,
Where the nibbling flocks do stray,
Mountains on whose barren breast
The labouring clouds do often rest;
Meadows trim with daisies pied,
Shallow brooks, and rivers wide.
Towers, and battlements it sees
Bosom'd high in tufted trees,
Where perhaps some beauty lies,
The cynosure of neighbouring eyes.

(*a*) Scan the 1st, 5th, 6th and 12th verses of this extract and name the metre.
(*b*) *Mine eye.* Distinguish between the use of *mine* and *my.*
(*c*) Parse *round, whose, pied, brooks, bosom'd, cynosure.*
(*d*) *Do stray.* Write a note upon the use of *do* as an auxiliary.
(*e*) *Bosom'd high in tufted trees.* Explain the meaning.
(*f*) *The labouring clouds do often rest.* Point out and explain the figure.

4. Quote from L'allegro the passage beginning "Towered cities please us then," * * * and from Il Penseroso the passage beginning "Sweet bird that shunn'st the noise of folly." * * *

5. Sometime let gorgeous Tragedy
In sceptered pall come sweeping by,
Presenting Thebes, or Pelops' line,
Or the tale of Troy divine.
Explain the allusions in this extract.

6. Give the derivation of *debonair, secure, demure, monumental.*

7. "The diction of these poems is flowing and melodious, the imagery is rich and picturesque, and the epithets are each a picture in itself."

Illustrate each of these characteristics by references, quotations, and comments.

8. Give a brief account of Milton's life.

MIDSUMMER EXAMINATIONS, 1884—Continued.

SECOND YEAR.

ROAD MAKING, LEVELLING, AND SURVEYING.

Examiner: E. L. Hunt.

I.—1. Enumerate some of the advantages resulting from the improvement of the roads of a country.

2. Distinguish Macadam and Telford roads, and fully describe the construction of either.

3. Calculate the power required to draw a wheel with diameter of 4 feet 6 inches over a stone 5 inches high, the line of draught being parallel with the road. Hence show that the power required varies (i) with the size of the stone, and (ii) with the diameter of the wheel.

4. How would you determine the steepest allowable slope for a road (*a*) considered as a descent, (*b*) considered as an ascent? (*c*) Show that this varies with the condition of the road. (*d*) Why are steep slopes more objectionable on a good road than on one in poorer condition?

5. (*a*) What is the best shape to give a road in order to make it crown?

(*b*) Why should the lateral slopes of a road exceed the longitudinal slope?

II.—(*a*) Complete the following field book, and determine the distance of A from F, and the height of one point above the other:—

Station.	Distance.	Back-sight.	Fore-sight.	Rise.	Fall.
A					
B	80	2.26	5.00		
C	65	1.45	5.58		
D	90	4.00	3.36		
E	40	3.34	1.00		
F	35	6.00	3.35		

(*b*) Between what two stations is the grade sloped.

III.—(1) Explain the use of the cross-staff and how you would make one.

(2) Describe minutely how to survey a field with the chain and cross-staff, and find its area.

APPENDIX 3.

CLASS LISTS.

I.—EASTER EXAMINATIONS, 1884.
II.—MIDSUMMER EXAMINATIONS, 1884.

I.—EASTER EXAMINATIONS, 1884.

FIRST YEAR.

Classes.	Agriculture.	Live Stock.	Handling and Judging Cattle. (Oral Exam.)	Handling and Judging Sheep. (Oral Exam.)	Inorganic Chemistry.
HONOURS. I.	1 McKay, J. B. 2 Raynor, T.	1 McKay 2 Muir 3 Raynor 4 Kemmis 5 Butler, Henry	1 Raynor 2 Henry	....	1 McKay 2 Raynor 3 Brodie 4 Ridings 5 Muir 6 Macpherson, A.
HONOURS. II.	1 Muir, J. B.; Butler, G. C. 3 McIntyre, D. N. 4 McPherson, A.; Ridings, H. L. 6 Reid, P. 7 Robinson, B.; Henry, J. W. 9 Jordan, J. W.; Jones, T. L. 11 Smith, E. P. 12 Kemmis, J. H. W. 13 Denton, E.; Malcolm, G. H. 15 Spalding, F. J. 16 Alexander, R. C.; Brodie, C. J. 18 Fair, J. L.; Thompson, W. D	1 Alexander, McIntyre 3 Jones 4 Skaife 5 McPherson, A.; Ridings 7 Campbell, J. L. 8 Robinson 9 Malcolm 10 Rowat 11 Casswell, Lane 13 Jordan, Spalding	1 Muir 2 Thompson 3 Robertson, Mackay, Pethick, McIntyre 7 Alexander, Beer 9 Denton, McPherson, A. 11 Rowat 12 Ridings 13 Brodie, Malcolm	1 Muir 2 Denton, McKay, Stamer, Brown, Butler 7 Fair, McIntyre, Quinn, Ridings 11 Raynor 12 Brodie, Thompson, Robinson	1 Kemmis 2 Butler 3 McIntyre 4 Reid, Bent ....

CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

FIRST YEAR.

CLASSES.	AGRICULTURE.	LIVE STOCK.	HANDLING AND JUDGING CATTLE. (Oral Exam.)	HANDLING AND JUDGING SHEEP. (Oral Exam.)	INORGANIC CHEMISTRY.
PASS. III.	1 Buckingham, F.W 2 Campbell, J. L. Brown, W. J. 4 Bent, E. H. 5 Lane, H. R. Macalister, T. G. Corsan, G. H. 8 Morris, W. D. 9 Nairn, J. Quinn, E. C. Pethick, W. H. 12 Rowat, J. T. 13 Greenwood, J. G. Knott, E. Matson, J. S. H. McPherson, H. A. Stamer, O. P. Campbell, W. W. Lobb, E. W. T. Casswell, A. B. Baldwin, E. H. Beer, H. H. Campbell, C. A.	1 Reid Quinn 3 Buckingham 4 Baldwin 5 Greenwood 6 Brodie 7 Denton 8 Nairn Corsan Thompson Fair Campbell, W. W 13 Brown Morris 15 Matson Pethick 17 Beer Smith 19 McPherson, H. 20 Stamer Macalister 22 Bent 23 Knott Campbell, C. Lobb	1 Buckingham Campbell, J. L 3 Fair Jordan Nairn 6 Butler 7 Jones Casswell Corsan 10 Brown Quinn Reid 13 Macalister Spalding 15 Matson 16 McPherson, H. Kemmis Campbell Smith Baldwin Stamer Bent Morris Campbell, C. A Lane Knott Greenwood Lobb	1 Buckingham Campb'l, W. W Reid McPherson, A. Bent Pethick. 5 Spalding McPherson, H Kemmis 10 Henry Matson 12 Jordan Lane Macalister 13 Malcolm Rowat Smith Campbell, J. L 19 Morris 20 Alexander Corsan Lobb Nairn Jones Knott Greenwood Campbell, C. A Casswell Baldwin Beer	1 Smith, E. P. 2 Macalister 3 Nairn 4 Jones 5 Thompson 6 Alexander 7 Henry 8 Corsan Rowat Spalding. Casswell Quinn Buckingham McPherson, H. A Lobb Campbell, J. L. Beer Lane Fair Greenwood Campbell, W. W. Stamer Morris Malcolm Brown Robinson Knott Jordan Matson Pethick Campbell, C. A. Baldwin Denton.

☞ Names unnumbered are those of Students who failed to pass in the subject.

The minimum for first-class honours is 75 per cent.; for second class honours, 50 per cent.; for pass, 33 per cent.

CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

FIRST YEAR.

Classes.	Organic Chemistry.	Physiology and Zoology.	Veterinary Anatomy.	English Literature.	English Composition.
HONOURS. I.	1 McKay. 2 Raynor. 3 Butler. 4 Macpherson, A. 5 Muir. 6 Ridings.	1 Macpherson, A. 2 Raynor, Muir. 4 McKay. 5 McIntyre. 6 Ridings. 7 Kemmis, Butler.	1 McKay. 2 Muir. 3 Ridings. 4 Raynor. 5 Butler.	1 Kemmis. 2 Raynor. 3 Ridings. 4 Macpherson, A. 5 Muir. 6 Butler.	1 McKay. 2 Ridings. 4 Macpherson, A. 5 Muir. 6 Butler.
II.	1 Jones. 2 Reid. 3 Kemmis. 4 Spalding, Reid. 6 Macalister.	1 Jones. 2 Beni. 3 Alexander.	1 Rowat, Kemmis. 3 Skaife, King, Macpherson, A, Brodie. 7 Davies, Spalding. 9 Bent. 10 Carlaw. 11 Alexander. 12 Quinn. 13 McIntyre. 14 Reid. 15 Jones. 16 Sharman, G. C, Henry. 17 Thompson.	1 Bent. 2 McKay. 3 Reid. 4 Jones. 5 McIntyre, Brodie. 7 Alexander. 8 Macalister.	1 Butler. 2 Raynor. 3 Reid. 4 Muir. 5 McIntyre. 6 Macpherson, A. 7 Jones. 8 Kemmis.

CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

FIRST YEAR.

CLASSES.	ORGANIC CHEMISTRY.	PHYSIOLOGY AND ZOOLOGY.	VETERINARY ANATOMY.	ENGLISH LITERATURE.	ENGLISH COMPOSITION.
PASS. III.	1 Brodie. 2 Smith. 3 McIntyre. 4 Alexander. 5 Nairn. 6 Macalister. Thompson. Bent. Buckingham. Spalding. Henry. Rowat. Stamer. Knott. Fair. McPherson, H. Morris. Robinson. Lobb. Corsan. Campbell, W. W Jordan. Malcolm. Lane. Quinn. Brown. Campbell, J. L. Matson. Pethick. Greenwood. Casswell. Beer. Denton. Baldwin. Campbell, C. A.	1 Thompson. 2 Brodie. 3 Henry. 4 Jordan. 5 Smith. 6 Lane. 7 Rowat. Quinn. Fair. Nairn. Malcolm. Casswell. Lobb. Buckingham. Beer. Baldwin. Stamer. Knott. Brown. Campbell, J. L. Robinson. Macpherson, H. Morris. Campbell, W. W Pethick. Corsan. Greenwood. Watson. Campbell, C. A.	1 Nairn. 2 Jordan. 3 Fair. 4 Macalister. 5 Smith. Lane. 7 Horridge. Brown. Buckingham. Lobb. Baldwin. Casswell. Beer. Malcolm. Knott. Stamer. Corsan. Macphrs'n, H. A Robinson. Greenwood. Campbell, J. L. Matson. Pethick. Annand. Morris. Campbell, C. A Campbell, W. W Denton (Sick).	1 Lane. 2 Rowat. 3 Spalding. Quinn. 5 Nairn. Thompson. 7 Smith. 8 Malcolm. 9 Campbell, J. L. 10 Buckingham. Henry. Jordan. Fair. Morris. Lobb. Pethick. Campbell, W. W Stamer. Campbell, C. A. Macpherson, H. Knott. Greenwood. Robinson. Corsan. Brown. Denton. Matson. Casswell. Beer. Baldwin.	1 Thompson. 2 Smith. 3 Spalding. 4 Buckingham. 5 Alexander. 6 Henry. 7 Bent. 8 Quinn. 9 Brodie. 10 Casswell. 11 Macalister. 12 Nairn. 13 Rowat. 14 Lane. Jordan. 16 Fair. 17 Campbell, W. W. Campbell, J. L. Malcolm. Baldwin. Macpherson. Robinson. Lobb. Greenwood. Stamer. Morris. Knott. Denton. Beer. Brown. Pethick. Matson. Corsan. Campbell, C. A.

☞ Names numbered are those of Students who failed to pass in the subject.

The minimum for first-class honours is 75 per cent.; for second honours, 50 per cent.; for pass 33 per cent.

CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

FIRST YEAR.

Class.		Arithmetic.	Book-Keeping.	General Proficiency.	Department.		First-class men in the Department.
Honours.	I.	1 Raynor. 2 Ridings.	1 Raynor. 2 Reid. 3 Ridings. 4 Muir. 5 McKay. 6 Nairn.	1 Raynor 2 McKay. 3 Ridings 4 Muir 5 Butler 6 McPherson	I.	Agriculture and Live Stock.	1 McKay. 2 Raynor.
	II.	1 Brodie. 2 Nairn. 3 Jones. 4 Spalding. 5 Macpherson, A. 6 Henry. 7 Alexander. 8 Butler. 9 Muir. 10 McIntyre. 11 Baldwin.	1 Macpherson, A. 2 Fair. 3 { Brodie. { Butler. 5 Kemmis. 6 Henry. 7 Thompson. 8 Alexander.	1 Kemmis 2 Brodie 3 McIntyre 4 Alexander	II.	Natural Science.	1 McKay. 2 Raynor. 3 Ridings. 4 { Macpherson, A. { Muir. 6 Butler.
Pass.	III.	1 Lane. 2 Nairn. 3 Morris. 4 Buckingham. 5 Campbell, C. A. 6 { Kemmis. { Rowat. 8 Campbell, J. L. 9 Robinson. Quinn. Corsan. Thompson. Fair. Malcolm. Reid. Brown. Macalister. Jordan. Smith. Bent. Casswell. Beer. Campbell, W. W. Lobb. Greenwood. Macpherson, H. Denton. Pethick. Knott. Stamer. Matson.	1 Morris. 2 Jones. 3 Buckingham. 4 Macalister. 5 Smith. 6 Rowat. 7 Brown. 8 Jordan. 9 Spalding. 10 { McIntyre. { Robinson. 12 Quinn. Bent. Malcolm. Lane. Campbell, W. W. Lobb. Knott. Campbell, C. A. Pethick. Campbell, J. L. Greenwood. Stamer. Matson. Corsan. Macperson, H. Baldwin. Beer. Casswell. Denton.		III.	Veterinary Science.	1 McKay. 2 Muir. 3 Ridings. 4 Raynor. 5 Butler.
					IV.	English Literature and Composition.	1 Raynor. 2 Ridings. 3 Kemmis. 4 Butler. 5 McKay. 6 Muir.
					V.	Mathematics and Book-keeping.	1 Raynor. 2 Ridings. 3 McKay.

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Only those who passed in every subject are ranked in proficiency.

First-class men in general proficiency must attain at least 67 per cent. of the total number of marks; second class men at least 50 per cent. of the total number of marks. First-class men in any department must obtain at least 75 per cent. of the marks allotted to the subjects in that department.

CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

SECOND YEAR.

Classes.	Agriculture.	Arboriculture.	Live Stock. (Written Exam.)	Handling and Judging Cattle. (Oral Exam.)	Handling and Judging Sheep. (Oral Exam.)
HONOURS. I.	1 Slater, H. 2 Ballantyne, A. W. 3 Carpenter, P. A. 4 Wark, A. E. / Powys, P.	1 Slater. / Powys. 3 Ballantyne. 4 Carpenter.	1 Ballantyne. 2 Slater. 3 Carpenter. 4 Courbarron. 5 Lehmann. / Wark.	1 Ballantyne. 2 Carpenter. / Rose. 4 Saxton.	1 Ballantyne. 2 Lehmann. ....
HONOURS. II.	1 Lehmann, A. 2 Tucker, H. V. 3 Saxton, E. A. / Wroughton, T. / Courbarron, F. H 6 Black, P. C. 7 Austin, W. E. / Major, C. H. 9 Hannah, J. 10 Mathewson, G. / Rose, G. M.	1 Wark. 2 Austin. / Wroughton. 4 Tucker. 5 Courbarron. 6 Lehmann. 7 Saxton. 8 Black.	1 Tucker. / Wroughton. 3 Saxton. 4 Powys. 5 Mathewson. / Austin. 7 Hannah. 8 Major. / Rose. / Black. 11 Steers.	1 Lehmann. 2 Major. 3 Wark. 4 Powys. 5 Black. 6 Wroughton. 7 Slater. / Hannah. 9 Tucker.	1 Wark. / Carpenter. 3 Saxton. / Black. 5 Major. / Austin. 7 Wroughton. / Rose. / Powys. 10 Mathewson. 11 Slater. / Steers. 13 Hannah. ....
PASS. III.	1 Steers, O.	1 Rose. 2 Mathewson. 3 Hannah. 4 Major. 5 Steers.	....	1 Austin. 2 Courbarron. 3 Mathewson.	1 Courbarron. / Tucker. ....

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CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

SECOND YEAR.

CLASSES.		AGRICULTURAL CHEMISTRY.	METEOROLOGY.	ENTOMOLOGY.	HORTICULTURE.	VETERINARY PATHOLOGY.
HONOURS.	I.	1 Slater. 2 Carpenter. 3 Wark. 4 Powys. 5 Ballantyne. 6 Lehmann.	1 Carpenter. 2 Wroughton. 3 Slater. 4 Ballantyne. 5 Wark. Powys. 7 Lehmann. 8 Tucker. 9 Saxton. 10 Major.	1 Lehmann. 2 Carpenter. 3 Slater.		1 Sharman. 2 Slater. 3 Hubbard. 4 Powys. 5 Ballantyne. 6 Lehmann. 7 Carpenter.
	II.	1 Black. 2 Tucker. 3 Wroughton. 4 Saxton. 5 Rose. 6 Major. 7 Steers.	1 Austin. 2 Steers. 3 Rose. 4 Black. 5 Mathewson. Courbarron. Hannah.	1 Wark. 2 Wroughton. Black. 4 Tucker. 5 Saxton. 6 Ballantyne. 7 Austin.	1 Carpenter. 2 Wroughton. 3 Slater. 4 Ballantyne. Tucker. 6 Powys. 7 Lehmann. 8 Austin.	2 Saxton. Austin. 3 Holcroft. Wark. 5 Wroughto 6 Black. 7 Rose. 8 Courbarron. 9 McGregor. 10 Major.
PASS.	III.	1 Courbarron. 2 Austin. 3 Hannah. 4 Mathewson.		1 Powys. 2 Major. 3 Rose. 4 Courbarron. Steers. Mathewson. Hannah.	1 Black. 2 Major. 3 Wark. Saxton. 5 Hannah. Courbarron. Mathewson. Rose. Steers.	1 Keil. 2 Tucker. 3 Hannah. 4 Mathewson. 5 Cowley. Steers. Fuller.

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CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

SECOND YEAR.

Classes.	Handling and Judging Horses. (Oral Exam.)	English Literature.	Political Economy.	Mechanics.	Draining.
HONOURS. I.	1 Sharman. 2 Carpenter. 3 Hubbard. 4 Lehmann. 5 Ballantyne.	1 Slater. 2 Carpenter. 3 Tucker.	1 Powys. 2 Lehmann. 3 Carpenter. 4 Major. 5 Tucker.	1 Lehmann. 2 Carpenter.	1 Slater. 2 Powys. 3 Carpenter. 4 Ballantyne.
HONOURS. II.	1 Major. 2 Saxton. 3 Slater, Black. 5 Powys, Holcroft. 7 Wroughton, Wark, Hannah. 10 Rose. 11 Tucker. 12 Austin, McGregor, Courbarron.	1 Powys. 2 Wroughton. 3 Wark. 4 Courbarron. 5 Black.	1 Wroughton. 2 Mathewson. 3 Ballantyne. 4 Austin. 5 Black. 6 Saxton. 7 Slater. 8 Wark. 9 Hannah. 10 Courbarron. 11 Rose.	1 Wark. 2 Wroughton. 3 Slater. 4 Ballantyne, Powys. 6 Saxton.	1 Austin. 2 Lehmann, Courbarron. 4 Saxton. 5 Wark. 6 Wroughton.
PASS. III.	1 Mathewson. 2 Cowley. 3 Steers. 4 Keil.	1 Mathewson. 2 Saxton. 3 Ballantyne. 4 Austin. 5 Lehmann. 6 Major. 7 Steers, Rose. Hannah.	1 Steers.	1 Rose. 2 Austin. 3 Black. 4 Tucker. 5 Hannah. 6 Major. 7 Steers. Mathewson. Courbarron.	1 Black. 2 Hannah. 3 Rose. 4 Major. 5 Tucker. 6 Mathewson. 7 Steers.

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CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

SECOND YEAR.

Classes.	Book-Keeping.	General Proficiency.
HONOURS. I.	1 Ballantyne. 2 Slater. 2 Lehmann. 4 Carpenter.	1 Carpenter. 2 Slater. 3 Lehmann. 4 Ballantyne. 5 Powys. 6 Wark.
HONOURS. II.	1 Wark. 1 Black. 3 Powys. 4 Rose. 5 Mathewson. 6 Austin.	1 Wroughton. 2 Saxton. 3 Tucker. 4 Black. 5 Austin. 6 Major. 7 Rose.
PASS. III.	1 Wroughton. 2 Saxton. 3 Steers. 4 Major. 5 Tucker. Courbarron. Hannah.	.....

Departments.		First-class men in the departments.
	Agriculture and Live Stock.	1 Ballantyne, A. W. 2 Carpenter, P. A.
II.	Natural Science.	1 Carpenter, P. A. 2 Slater, H. 3 Wark, A. E. 4 Powys, P. C. 5 Ballantyne, A. W. 6 Lehmann, A.
III.	Veterinary Science.	1 Carpenter, P. A. 2 Ballantyne, A. W. 2 Lehmann, A. 4 Slater, H. 5 Powys, P. C.
IV.	English Literature and Political Economy.	1 Carpenter, P. A. 1 Powys, P. C. 3 Tucker, H. V.
V.	Mathematics and Book-keeping.	1 Lehmann, A. 2 Carpenter, P. A.

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First-class men in general proficiency must obtain at least 67 per cent. of the total number of marks; second-class men, at least 50 per cent. of the total number of marks. First-class men in any department must obtain at least 75 per cent. of the marks allotted to the subjects in that department.

CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

SPECIAL LIVE STOCK AND VETERINARY CLASS.

CLASSES.	CATTLE, (WRITTEN EXAMINATION.)	SHEEP, (WRITTEN EXAMINATION.)	PIGS AND SHEEP, (WRITTEN EXAMINATION.)	HANDLING AND JUDGING CATTLE, (ORAL EXAMINATION.)	HANDLING AND JUDGING SHEEP, (ORAL EXAMINATION.)	VETERINARY ANATOMY.
HONOURS. I.	1 Hubbard, W. W. 2 Sharman, H. B. 3 Davies, S. McGregor, J.	1 Hubbard. 2 Sharman, H. B. 3 McGregor. 4 Skaife. 5 Holcroft.	1 Hubbard. 2 Sharman, H. B. 3 Holcroft. 4 McGregor.	1 Hubbard. McGregor. 3 Holcroft. 4 Sharman, H. B.	1 Hubbard. 2 Parker. Sharman, H. B. 4 McGregor. 5 Holcroft. 6 Carlaw. 7 Skaife. 8 Sharman, G. C.	
HONOURS. II.	1 Holcroft, H. S. 2 Skaife, H. W. 3 Parker, T. R. 4 Carlaw, C. M. 5 Keil, C. A. 6 Horridge, J. 7 Sharman, G. C.	1 Davies. Carlaw. 3 Annand. 4 Parker. Fuller. 6 Cowley. 7 Keil. 8 Sharman, G. C.	1 Carlaw. 2 Parker. 3 Sharman, G. C. 4 Cowley. 5 Skaife. 6 Keil. 7 Fuller. 8 Annand. 9 King.	1 Carlaw. Parker. 3 Annand. Sharman, G. C. 5 Keil. 6 Skaife. Davies. 8 Cowley. 9 King. 10 Fuller.	1 Davies. 2 Keil. King. 4 Fuller. Cowley. 6 Annand.	1 Skaife. King. 3 Davies. 4 Carlaw. 5 Sharman, G. C.
PASS. III.	1 Cowley, E. A. 2 Annand, F. W. C. King, J. E. Fuller, G.	1 King. Horridge.				1 Horridge. Annand. Parker, (abs.)

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SPECIAL LIVE STOCK AND VETERINARY CLASS.

CLASSES.	VETERINARY PATHOLOGY.	HANDLING AND JUDGING HORSES, (ORAL EXAMINATION.)	VETERINARY OBSTETRICS.	LAW'S VETERINARY ADVISER.	STOCK-BREEDING, (MILES.)	FEEDING OF ANIMALS, (STEWART.)
HONOURS. I.	1 Sharman, H. B. 2 Hubbard.	1 Sharman, H. B. 2 Hubbard.	1 Sharman, H. B. 2 Hubbard. 3 McGregor.	1 Hubbard.	1 Sharman, H. B. 2 McGregor. 3 Hubbard.	1 Sharman, H. B.
HONOURS. II.	1 Holcroft. 2 McGregor.	1 Holcroft. 2 McGregor.	1 Sharman, G. C. 2 King. 3 Davies. 4 Holcroft. 5 Parker. 6 Keil.	1 Sharmon, H. B. 2 McGregor. 3 Holcroft. 4 Skaife. 5 King.	1 Holcroft. 2 Carlaw. 3 Davies. Parker. 5 Horridge.	1 Hubbard. 2 McGregor.
PASS. III.	1 Keil. 2 Cowley. Fuller.	1 Cowley. 2 Keil. Fuller.	1 Cowley. 2 Carlaw. 3 Horridge. Fuller.	1 Keil. Sharman, G. C. 3 Cowley. 4 Carlaw. Fuller. Annand.	1 Keil. 2 Sharman, G. C. Skaife. Cowley. King. Fuller.	1 Skaife. 2 Parker. 3 Keil. 4 Carlaw. 5 Davies. 6 Holcroft. 7 Sharman, G. C. Horridge. Cowley. King. Annand. Fuller.

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CLASS LISTS.

II.—MIDSUMMER EXAMINATIONS, 1884.

FIRST YEAR.

Class.	Agriculture.	Geology.	Botany.	Veterinary Materia Medica.	English Literature.
HONOURS. I.	1 Raynor, T. 2 Muir, J. B. 3 Ridings, H. L. 4 McIntyre, D. N.	1 Raynor. 2 Macpherson. 3 Muir. 4 Owen. 5 McIntyre. 6 Ridings. 7 Broome. 8 Reid 9 Kemmis.	1 Raynor. 2 Macpherson. 3 Muir. 3 Ridings.	1 Raynor. 2 Muir. 3 Ridings. 4 Alexander.	1 Raynor. 2 Macpherson.
HONOURS. II.	1 Casswell, A. B. 2 Macpherson, A. 3 Alexander, R. C. 4 Thompson, W. D. 5 Kemmis, J. H. W. 6 Jones, T. L. 7 Hall, H. B. 8 Carlaw, C. M. 9 Fortune, G. R. 10 McKay, J. G.	1 Thompson. 2 Carlaw. 3 Alexander. 4 Maude. 5 Thompson. 6 Hall. 7 Moberly. 8 McKay. 9 Bent. 10 Casswell.	1 Kemmis 2 McIntyre. 3 Reid. 4 Owen. 5 Alexander.	1 Owen. 2 Macpherson. 3 Jones. 4 Quinn. 5 McIntyre. 5 Reid. 7 Bent. 8 Donaldson. 9 Johnston. 10 Carlaw. 10 Kemmis. 12 Moberly. 13 Casswell. 14 Broome. 15 Watts. 16 Patterson.	1 Ridings. 2 Moberly. 2 Muir. 4 Owen. 5 Kemmis.

Names unnumbered are the names of Students who failed to pass in the subject.

The minimum for first-class honours is 75 per cent.; for second-class honours, 50 per cent.; for pass, 33 per cent.

CLASS LISTS (MIDSUMMER EXAMINATIONS)—*Continued.*

FIRST YEAR.

CLASS.	AGRICULTURE.	GEOLOGY.	BOTANY.	VETERINARY MATERIA MEDICA.	ENGLISH LITERATURE.
PASS. III.	1 Watts, W. J. 2 Carr, G. P. 3 Rowat, J. T. 4 Reid, P. 5 Denton, E. Dunn, J. G. Owen, W. H. Donaldson, H. W. W. Bent E. H. Quinn, E. C. Maude, F. S. A. Power, R. H. Macfarlane, A. D Fraser, T. Brownjohn, N. S. L. Broome, A. H. S. Moberly, G. E. Johnston, F. A. Patterson, J. W. Carden, J. Baker, V. H. Lobb, E. W. T. Notman. Burch, E. W. Thompson, W. Hayman, J. N. Greenwell, H.	1 Fortune. 2 Watts. 3 Patterson. 4 Johnston. 5 Rowat. 6 Donaldson. 7 Denton. 8 Carr. Power. Jones. 11 Hayman. Byers, W. F. Macpharlane. Quinn. Lobb. Burch. Dunn. Carden. Fraser. Greenwell. Brownjohn. Baker. Notman. Greenwood.	1 Bent. 2 Thompson, W.D 3 McKay, J. G. 4 Lobb. Carlaw. 6 Power. 7 Quinn. Casswell. Hall. Jones. Johnston. Rowat. Donaldson. Denton. Watts. Hayman. Moberly. Baker. Broome. Brownjohn. Macfarlane. Dunn. Fraser. Patterson. Byers. Carr. Fortune. Thompson, H. Carden. Greenwell. Burch.	1 Carr. 2 Macpherson. Fortune. 4 McKay, J. G. 5 Rowat. Thompson, W. D. 7 Lobb. 8 Maude. Hall. Hayman. Power. Thompson, H. Carden. Brownjohn. Baker. Denton. Notman. Greenwell. Fraser.	1 Reid. 2 Broome. 3 Watts. 4 McIntyre. 5 Donaldson. 6 McKay. 7 Jones. 8 Bent. 9 Brownjohn. 10 Alexander. 11 Fortune. 12 Hayman. 13 Johnston. Carden. Rowat. Maude. Power. Casswell. Macpharlan Hare. Thompson, W D Baker. Denton. Quinn. Dunn. Byers. Notman. Fraser. Carr. Greenwell. Lobb. Burch. Thompson, H. Carlaw (sick).

☞ Names unnumbered are the names of students who failed to pass in the subject.

The minimum for first-class honours is 75 per cent.: for second-class honours, 50 per cent.; for pass, 33 per cent.

CLASS LISTS (MIDSUMMER EXAMINATIONS)—*Continued.*

FIRST YEAR.

Classes.	Composition.	Mensuration.	General Proficiency.	Departments.	First-Class Men in the Departments.
HONOURS. I.	1 Raynor. 2 Muir. 3 Ridings. 4 Jones.	1 Raynor. 2 Ridings. 3 Muir.	1 Raynor. 2 Muir. 3 Ridings. 4 Macpherson.	I. Agriculture and Live Stock.	1 Raynor, T., Rose Hall, Ont 2 Muir, J.B., North Bruce, Ont. 3 Ridings, H. L., Grafton, Ont. 4 McIntyre, D.N., Paisley, Ont.
HONOURS. II.	1 Moberly. 2 Reid. 3 Macpherson. 4 Alexander. 5 Kemmis. 6 Fortune. 7 McIntyre. 8 Bent. 9 Maude. 10 Patterson. 11 Watts.	1 McKay, J. G. 2 Jones. 3 McIntyre. 4 Moberly. 5 Alexander. 6 Macpherson.	1 McIntyre. 2 Alexander. 3 Kemmis. 4 Reid.	II. Natural Science.	1 Raynor, T., Rose Hall, Ont. 2 Macpherson, A., Montreal. 3 Muir, J.B., North Bruce, Ont. 4 Ridings, H. L., Grafton, Ont. 5 McIntyre, D. M., Paisley, Ont. 6 Owen, W.H., England.
PASS. III.	1 Casswell. 2 Broome. 3 Thompson, W.D. 4 McKay, J. G. / Owen. 6 Carlaw. 7 Lobb. 8 Brownjohn. 9 Baker. / Donaldson. 11 Hall. 12 Carden. 13 Quinn. 14 Rowat. 15 Johnston. 16 Macpharlane. Denton. Dunn. Carr. Notman. Power. Burch. Byers. Fraser. Thompson, H. Greenwell. Hayman. Greenwood.	1 Casswell. 2 Owen 3 Maude. 4 Dunn. 5 Reid. 6 Broome. 7 Rowat. 8 Johnston. 9 Power. 10 Thompson, W.D. 11 Quinn. 12 Bent. 13 Kemmis. 14 Carlaw. Hall. Brownjohn. Byers. Notman. Watts. Macpharlane. Hayman. Carr. Donaldson. Fraser. Patterson. Burch. Thompson, H. Baker. Greenwell. Denton. Fortune. Lobb.	1 McKay.	III. Veterinary Science.	1 Raynor, T., Rose Hall, Ont. 2 Muir, J.B., North Bruce, Ont 3 Ridings, H. L, Grafton, Ont 4 Alexander, R. C., Wedigo, Ont.
				IV. English Composition and Literature.	1 Raynor, T., Rose Hall, Ont.
				V. Mathematics	1 Raynor, T., Rose Hall, Ont. 2 Ridings, H. L., Grafton, Ont. 3 Muir, J.B., North Bruce, Ont.

☞ Names unnumbered are those of Students who failed to pass in the subject.

Only those who passed in every subject are ranked in general proficiency.

First-class men in general proficiency must obtain at least 67 per cent. of the total number of marks; second class men at least 50 per cent. of the total number of marks. First-class men in any department must obtain at least 75 per cent. of the marks allotted to the subjects in that Department.

CLASS LISTS (MIDSUMMER EXAMINATIONS)—*Continued.*

SECOND YEAR.

Classes.	Agriculture.	Handling and Judging Cattle and Sheep.	Horticulture.	Analytical Chemistry
Honours. I.	1 Carpenter, P. A. 2 Slater, H. 3 Wark, A. E. 4 McKay, J. B.	1 Lehmann.	1 Carpenter. 2 Slater. Powys. 4 Lehmann.	1 Slater. 2 Carpenter. 3 Lehmann. 4 Mackay, J. B.
Honours. II.	1 Powys, P. C. 2 Lehmann, A. 3 Wroughton, T. A. 4 Butler, G. A.	1 Mackay. 2 Carpenter. 3 Wroughton. 4 Powys. Slater. 6 Wark. 7 Major. Steers.	1 Wark. 2 Major. 3 Mackay. J. B. 4 Wroughton. Butler.	1 Wark. 2 Butler. 3 Wroughton.
Pass. III.	1 Major, P. H. F. 2 Black, P. C. 3 Macalister, T. G. 4 Steers, O. Smith, E. P. Lane, H. B.	1 Macalister. Smith. 3 Black. Butler. 5 Lane.	1 Steers. 2 Black. Smith. Macalister. Lane.	1 Powys. 2 Black. Steers. Major. Macalister. Smith. Lane.

CLASS LISTS (EASTER EXAMINATIONS)—*Continued.*

SECOND YEAR.

Classes.	Systematic and Economic Botany.	Veterinary Materia Medica.	Veterinary Obstetrics.	English Literature.
Honours. I.	1 Slater. 2 Carpenter. 3 Powys. 4 Lehmann.	1 Wark. 2 Carpenter. 3 Slater. 4 Wroughton. 5 Lehmann. 6 Mackay, J. B.	1 Slater. 2 Carpenter. 3 Mackay, J. B. 4 Wark. 5 Lehmann. 6 Black.	1 Carpenter. 2 Slater. 3 Powys. 4 Butler.
Honours. II.	1 Mackay, J. B. 2 Butler. 3 Wark. 4 Wroughton. 5 Major.	1 Steers. 2 Powys. 3 Black. 4 Butler. 5 Major.	1 Powys. 2 Wroughton. 3 Butler. 4 Major. 5 Steers.	1 Mackay, J. B. 2 Black. 3 Wark. Wroughton. 5 Major.
Pass. III.	1 Black. Steers. 3 Lane. Macalister. Smith.	1 Lane. Macalister. Smith.	1 Macalister. 2 Lane. Smith.	1 Lehmann. 2 Lane. 3 Steers. Macalister. Smith.

☞ Names unnumbered are those of Students who failed to pass in the subject.

The minimum for first-class honours is 75 per cent; for second class honours, 50 per cent.; for pass, 38 per cent.

CLASS LISTS (MIDSUMMER, 1884)—*Continued.*

SECOND YEAR—*Continued.*

Class.	Road-Making, Levelling and Surveying.	General Proficiency.	Departments.		First-class men in the departments.
HONOURS. I.	1 Carpenter. 2 Lehman. 2 Powys. 4 Slater. 5 Wark.	1 Carpenter. 2 Slater. 3 Lehman. 4 Mackay. 5 Wark. 6 Powys.	I.	Agriculture, Theorical and Practical.	1 Wark, A. E., Wanstead, Ont. 2 Carpenter, P. A., Collingwood, Ont. 3 Mackay, J. B., Stellarton, Ont.
HONOURS. II.	1 Mackay. 2 Wroughton. 3 Butler.	1 Wroughton. 2 Butler. 3 Black. 4 Major.	II.	Horticulture.	1 Carpenter, P. A., Collingwood, Ont. 2 Slater, H., Taunton, England. 3 Lehmann, A., Orillia, Ont. 4 Powys, P. C., Fredericton, N.B.
PASS. III.	1 Black. 2 Major. 3 Macalister. 4 Smith. 5 Steers. Lane.	1 Steers.	III.	Natural Science.	1 Slater, H., Taunton, England. 2 Carpenter, P. A., Collingwood, Ont. 3. Lehmann, A., Orillia, Ont.
			IV.	Veterinary Science.	1 Carpenter, P. A., Collingwood, Ont. 2 Slater, H., Taunton, England. 3 Wark, A. E., Wanstead, Ont. 4 Mackay, J. B., Stellarton, N.S. 5 Lehmann, A., Orillia, Ont.
			V.	English Literature.	1 Carpenter, P. A., Collingwood, Ont. 2 Slater, H., Taunton, England. 3 Powys, P. C., Fredericton, N.B. 4 Butler, G. C., London, England.
			VI.	Mathematics.	1 Carpenter, P. A., Collingwood, Ont. 2 Lehmann, A., Orillia, Ont. 2 Powys, P. C., Fredericton, N.B. 4 Slater, H., Taunton, England. 5 Wark, A. E., Wanstead, Ont.

☞ Names unnumbered are those of the Students who failed to pass in the subject.

Only those who passed in every subject are ranked in general proficiency.

First-class men in general proficiency must obtain at least 67 per cent. of the total number of marks; second class men, at least 50 per cent. of the total number of marks. First-class men in any department must obtain at least 75 per cent. of the marks alloted to the subjects in that department.

APPENDIX 4.

THE COLLEGE IN ACCOUNT WITH THE FARM AND THE GARDEN.

(a) With Farm. *Dr.*

To 327 bags potatoes, @ 50c	$163 50
" 3,469 gals. milk, @ 12c	416 28
" 21 barrels flour, @ $4.25	89 25
" 53 bushels carrots @ 25c	13 25
" 18¼ turnips @ 15c	2 74
" Cartage for College	25 00
" Feed of College horse (without attendance)	75 00
" Feed of Matron's horse (without attendance)	75 00
	$860 02

(b) With Garden.

To fruit and vegetables (for items see Mr. Forsyth's report in part VI.)	603 39
	1,463 41

Cr.

By amount paid for students' labor on Farm and Garden	4,234 98
By balance	$2,771 57

PART II.

REPORT.

OF THE

PROFESSOR OF CHEMISTRY.

AGRICULTURAL COLLEGE, January, 1885.

To the President of the Ontario Agricultural College:

DEAR SIR,—We are pleased with the increased efficiency which the addition of two hundred and fifty dollars to the chemical allowance has given to the Chemical Laboratory of the college. As a consequence, the practical illustration of chemical principle is now easy and pleasant.

Professor Brown has liberally furnished the Laboratory of the experimental field, so that work in quantitative analysis can be now conveniently and accurately done.

The customary brief review of the agricultural work of Rothamstead, England, and of some of the leading stations of Germany and of the United States, we shall not seek to give in this Report, reserving them if time permits, for a separate publication farther on.

I. EXPERIMENTAL DEPARTMENT.

1. FIELD EXPERIMENTS.

On Ranges II. and III. of the Experimental Field, has been continued during the present year, the system of "Co-operative Experimenting" which Prof. O. W. Atwater submitted to the Department of Agriculture, Washington, March 27th, 1882. To enable the reader to compare the results of last year with those of this year, we have given the returns of 1883 a place beside those of 1884. Before we proceed to give the results of this year's experiments, we shall briefly review the conditions under which the fertilizers have been used.

Nitrogen was used in three distinct forms:—

First, in the form of nitric acid—nitrate of soda.
Second, in the form of ammonia—sulphate of ammonia.
Third, in the form of organic nitrogen—steam-dried blood.

Three rations were used, full, two-thirds, and one-third.

	RATION.		
	FULL. lbs. per acre.	TWO-THIRDS. lbs per acre.	ONE-THIRD. lbs. per acre.
1. Nitrate of soda	450	300	150
2. Sulphate of ammonia	343	228	114
3. Dried blood	660	440	220

There was also used a "nitrogen mixture," consisting of equal parts of nitrate of soda, sulphate of ammonia, and dried blood, and containing the same percentage of nitrogen as nitrate of soda, and hence the same rations.

Phosphoric acid was likewise employed in three different forms of combination—soluble, precipitated or reverted, and insoluble. There was used for the soluble phosphoric acid, dissolved bone black with sixteen per cent. $P_2 O_5$; for the *precipitated*, a high grade superphosphate with equal weight of chalk, making a precipitated phosphate with sixteen per cent. $P_2 O_5$; for the *insoluble*, fine bone dust with 25 per cent. $P_2 O_5$.

	RATION.		
	Full. lbs. per acre.	Two-thirds. lbs. per acre.	One-third. lbs. per acre.
1. Soluble phosphate	600	400	200
2. Precipitated phosphate	600	400	200
3. Insoluble phosphate	400	267	133

Potash was used in the form of muriate of potash, the full ration being 200 pounds to the acre, two-thirds ration, 133 pounds, and one-third ration sixty-seven pounds.

In applying these fertilizers separately and two by two, two-third rations were used; in applying them altogether, two-third rations of two of them were added to the several rations of the third. We hoped in this way to discover the heightened effect on the one fertilizer by the addition of the other fertilizers. The sulphate of lime group has been suggested in order to ascertain if the effect of the super-phosphate be due in part to the sulphate of lime always present in it.

In the following table the number of the plots, the fertilizers, and the quantities per $\frac{1}{10}$ acre, are given :—

FIRST TWO ACRE SET—Nitrogen and Potash.

Number of Plot.	FERTILIZERS.	Quantities per One-Tenth Acre Plots.
	I.—Preliminary Group.	Pounds.
40	Nitrate of soda, two-thirds ration	30·0
39	Superphosphate " "	40·0
38	Muriate of potash " "	13·3
37	Nitrate of soda, Superphosphate, } mixed minerals	30·0 / 40·0
36	Nitrate of soda, Muriate of potash } "	30·0 / 13·3
35	Superphosphate, Muriate of potash } "	40·0 / 13·3
	II.—Nitrate of Soda Group.	
34	Mixed minerals as No. 35	53·3
	Nitrate of soda, one-third ration	15·0
33	Mixed minerals as No. 35	53·3
	Nitrate of soda, two-thirds ration	30·0
32	Mixed minerals as No. 35	53·3
	Nitrate of soda, full ration	45·0
	III.—Sulphate of Ammonia Group.	
31	Mixed minerals as No. 35	53·3
	Sulphate of ammonia, one-third ration	11·4
30	No manure	
29	Mixed minerals as No. 35	53·3
	Sulphate of ammonia, two-thirds ration	22·8
28	Mixed minerals as No. 35	53·3
	Sulphate of ammonia, full ration	34·3
	IV.—Dried Blood Group.	
27	Mixed minerals as No. 35	53·3
	Dried blood, one-third ration	22·0
26	Mixed minerals as No. 35	53·3
	Dried blood, two-thirds ration	44·0
25	Farm-yard manure	15 tons per acre.
24	Mixed minerals as No. 35	53·3
	Dried blood, full ration	66·0
	V.—Muriate of Potash Group.	
23	Mixed minerals as No. 37	70·0
	Muriate of potash, one-third ration	6·7
22	Mixed minerals as No. 37	70·0
	Muriate of potash, two-thirds ration	13·3
21	Mixed minerals as No. 37	70·0
	Muriate of potash, full ration	20·0

SECOND TWO ACRE SET—Phosphoric Acid and Sulphate of Lime.

Number of Plot.	FERTILIZERS.	Quantities per One-Tenth Acre Plots.
	I.—Preliminary Group.	Pounds
41	"Nitrogen mixture," two-thirds ration	30·0
42	Superphosphate, " "	40·0
43	Muriate of potash, " "	13·3
44	Nitrogen mixture, " "	30·0
	Superphosphate, " "	40·0
45	No manure	
46	Muriate of potash, two-thirds ration	13·3
	Superphosphate, " "	40·0
47	Nitrogen mixture, Muriate of potash, } Basal mixture.	30·0
		13·3
	II.—Soluble Phosphoric Acid Group.	
48	Basal mixture as No. 47	43·3
	Superphosphate, one-third ration	20·0
49	Basal mixture as No. 47	43·3
	Superphosphate, two-thirds ration	40·0
50	Farm-yard manure	
51	Basal mixture as No. 47	43·3
	Superphosphate, full ration	60·0
	III.—Precipitated Phosphoric Acid Group.	
52	Basal mixture as No. 47	43·3
	Precipated Phosphate, one-third ration	20·0
53	Basal mixture as No. 47	43·3
	Precipated Phosphate, two-thirds ration	40·0
54	Basal mixture as No. 47	43·3
	Precipated Phosphate, full ration	60·0
	IV.—Insoluble Phosphoric Acid Group.	
55	Basal mixture as No. 47	43·3
	Bone dust, one-third ration	13·3
56	Basal mixture as No. 47	43·3
	Bone dust, two-thirds ration	26·7
57	Basal mixture as No. 47	43·3
	Bone dust, full ration	40·0
	V.—Sulphate of Lime Group.	
58	Basal mixture as No. 47	43·3
	Sulphate of Lime, one-third ration	7·5
59	Basal mixture as No. 47	43·3
	Sulphate of Lime, two-thirds ration	15·0
60	Basal mixture as No. 47	43·3
	Sulphate of Lime, full ration	22·5

The soil though not rich is by no means poor; not much farm-yard manure has ever been applied to it. It was broken from sod in the fall of 1881, and was summer fallowed the following summer. The treatment of this year resembles that of last. By April 24th and 25th, the soil had become dry; it was then cultivated with a two-horse cultivator followed by heavy iron harrows. On April 26th "White Russian Spring Wheat" was sown, all the special fertilizers applied, except nitrate of soda, and the plots drilled. The seed was bought of Scott Joseph, of Rock Island, Quebec, was plump and well matured. Although the weather remained dark and chilly from April 26th to May 18th, the blades appeared well above ground, on May 10th; on May 27th, the nitrate of soda was sown as a top dressing, the crop being at that date far enough advanced to draw nourishment from the soil. We are safe in saying that little or no loss of fertilizers occurred this year from rains. On May 4th, frost occurred, doing damage to crops growing on the darker soil of these Ranges—Plots 47, 48, 49, 50, 51, 52, 53, 54, and 55—the crops on the above plots assuming a distinct yellowish tinge.

The dark soil of these Ranges lies upon a blue clay subsoil. When the roots of the plants over this subsoil have reached a certain depth, the blades of the plants become yellowish in colour and delicate in appearance. It is this portion of the crop that suffers most from wet and cold. The dryness that occurred this season during the month of July, injured the crops over this blue clay the most.

The crop has been almost completely destroyed by rust. It became visible early in July at the time the grain was heading out, and increased until the time of ripening, August 1st. Barberry bushes have had a place at one corner of the field. We have noticed this last summer, that the wheat and oats nearest to these bushes, have been completely destroyed by rust.

In the following table, prepared by Mr. Shuttleworth, foreman of the Experimental Department, under the direction of Professor Brown, the results obtained from the different plots are given:—

FIELD EXPERIMENTS.

Experimental Field. Range II. 20 Plots. One-tenth Acre Each.

Nitrogen and Potash on Spring Wheat in 1884.

Date.		Grain per One-Tenth Acre.			Grain per Acre.			Total Crop per Acre.						Bushels per Acre.	Total Crop per Acre.		Per Cent. of Crop Grain.		Grain Weight per Measured Bushel.	Appearance of Crop when Standing.	Amount of Rust.	Length of Straw.	Plot.
								Grain.			Straw.												
Month.	Day.	Market Grain.	Small Grain.	Total.	Market Grain.	Small Grain.	Total.	1883.	1884.	Average.	1883.	1884.	Average.		1883.	1884.	1883.	1884.					
								Bush.	Bush.	Bush.	Tons.	Tons.	Tons.		lbs.	* lbs.							
August.	12th	114.5	19	133.5	1145	190	1335	23.2	19	21.1	2.6	2.5	2.5	19.0	6710	6400	20.8	20.8	55.3	85	70	80	21
"	12th	84.5	23.5	108	845	235	1080	16.8	14	15.4	2.3	2.4	2.3	14.0	5790	6000	19.2	18.0	50.3	85	70	80	22
"	12th	110.5	19	129.5	1105	190	1295	17.7	18.4	18	2.1	2.4	2.2	18.4	5430	6200	19.6	20.8	52.2	85	70	80	23
"	12th	137	18.5	155.5	1370	185	1555	17.2	22.8	20	2.1	2.1	2.1	22.8	5395	5950	19.2	26.1	55.2	85	70	80	24
"	13th	145	13.5	158.5	1450	135	1585	16.1	24.1	20.1	2.3	2.0	2.1	24.1	5690	5700	17.1	27.8	56.1	85	68	82	25
"	13th	148.5	18	166.5	1485	180	1665	16.7	24.7	20.7	2.1	2.0	2.0	24.7	5310	5700	19.0	29.2	56.5	85	65	80	26
"	13th	142.5	15	157.5	1425	150	1575	16.7	23.7	20.2	2	1.8	1.9	23.7	5010	5300	20.1	29.7	56.2	75	70	75	27
"	13th	125	18.5	143.5	1250	185	1435	15.3	20.8	18	1.4	2.1	1.7	20.8	4910	5800	18.8	24.7	52.2	83	70	80	28
"	12th	108.5	22.5	131	1085	225	1310	15.1	18	16.5	1.7	1.8	1.7	18.0	4440	5100	20.5	25.6	50.3	85	70	80	29
"	13th	41.5	18	59.5	415	180	595	8.2	6.9	7.5	1.2	1.1	2.1	6.9	2950	2800	16.7	21.2	37.5	60	70	55	30
"	12th	52.5	23	75.5	525	230	755	11.1	8.7	9.9	1.5	1.4	1.4	8.7	3690	3600	18.1	20.9	50.8	25	75	53	31
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*32
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*33
.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*34
"	12th	50	14.5	64.5	500	145	645	8.5	10.7	9.6	1.1	1.4	1.2	10.7	2750	.....	18.7	18.3	49.5	55	75	60	35
"	13th	75	15	88	730	150	880	15.5	14.6	15	1.6	1.5	1.5	14.6	4310	.....	21.7	22.5	50.2	75	65	80	36
"	13th	86	15	101.5	860	150	1010	12.6	16.5	14.7	1.5	1.6	1.5	16.9	3940	.....	19.3	23.6	51.5	75	70	75	37
"	13th	52	11	63	520	110	630	11.3	10.5	10.9	1.4	1.6	1.5	10.9	3550	.....	19.2	21.0	52.2	55	70	70	38
"	12th	65	14.5	79.5	650	145	795	10.9	13.2	12	1.3	1.5	1.4	13.2	3420	.....	19.3	20.3	48.5	78	65	73	39
"	13th	50.5	12.5	63	505	125	630	9.2	10.5	9.8	1.2	1.2	1.2	10.5	4070	.....	18.2	20.7	48.2	65	70	65	40

* In the above table plots, 32, 33, 34 are not reckoned. The crops of these plots were not worth the seed.

FIELD EXPERIMENTS—(*Continued*).

EXPERIMENTAL FIELD. RANGE III. 20 PLOTS. ONE-TENTH ACRE EACH.

Phosphoric Acid and Sulphate of Lime on Spring Wheat in 1885.

DATE.		GRAIN PER ONE-TENTH ACRE.			GRAIN PER ACRE.			TOTAL CROP PER ACRE.							TOTAL CROP PER ACRE.		PER CENT. OF CROP GRAIN.						
								Grain—bushels.			Straw—tons.												
Month.	Day.	Market Grain.	Small Grain.	Total.	Market Grain.	Small Grain.	Total.	1883.	1884.	Average.	1883.	1884.	Average.		1883.	1884.	1883.	1884.	Grain Weight per Measured Bushel.	Appearance of Crop when Standing.	Amount of Rust.	Length of Straw.	Plot.
															lbs.	lbs.							
August.	13th	40.5	13	53.5	405	130	535	18.4	8.9	15.6	2.0	1.9	1.9	.....	5190	4480	21.3	11.9	45.5	85	73	82	41
"	12th	65	15.5	80.5	650	155	805	19.3	13.4	16.3	1.8	2	1.9	.....	4950	4920	23.5	16.3	48.1	82	65	80	42
"	12th	54	20	74.1	540	200	741	18	12.3	15.1	2.0	1.7	1.8	.....	5090	4160	21.3	17.8	47.7	78	65	76	43
"	12th	49	26.5	75.5	490	265	755	16.2	12.5	14.3	1.8	2	1.9	.....	4670	4860	20.8	15.5	47	83	65	65	44
"	12th	35	26	61	350	260	610	15.1	10.1	12.6	1.7	1.6	1.6	.....	4330	3849	21	15.8	46.5	60	70	70	45
"	12th	100.5	27	127.5	1005	270	1275	22.4	21.2	21.8	2.3	2.2	2.2	.....	6130	5840	21.9	21.8	52.5	85	68	80	46
"	12th	48.5	18	66.5	485	180	665	19.7	11	15.3	2.1	1.7	1.9	.....	5532	4200	21.4	15.8	49.1	83	70	80	47
"	13th	97	25	122	970	250	1220	17.2	20.3	18.7	2.0	2.1	2.0	.....	5110	5560	20.3	21.9	51.2	85	70	80	48
"	13th	108	35	143	1080	350	1430	20.5	23.8	22.1	1.9	2	1.9	.....	5160	5520	23.9	25.9	53	85	68	80	49
"	13th	103	26	129	1030	260	1290	21.8	21.5	21.6	2.0	2.4	2.2	.....	5340	6180	23.6	20.8	54.8	88	70	85	50
"	13th	97	15	122	970	150	1120	17.6	18.6	18.1	1.6	2	1.8	.....	4320	5160	24.5	21.7	53	85	65	85	51
"	13th	101	17	118	1010	170	1180	17.4	19.6	18.1	1.7	1.6	1.6	.....	4570	4440	23	26.5	53.3	80	70	80	52
"	13th	90	54	144	900	540	1440	18.9	24	21.4	1.7	1.8	1.7	.....	4640	5180	24.6	27.7	53.3	85	70	85	53
"	13th	114	18	132	1140	180	1320	24.9	22	23.4	2.0	2.4	2.2	.....	5900	6240	25.4	21.1	51.6	85	70	86	54
"	13th	71	16	87	710	160	870	19.2	14.5	16.8	1.7	1.4	1.5	.....	4650	3860	24.9	22.5	52.3	75	70	80	55
"	13th	785	13	91.5	785	130	915	17	15.2	16.1	1.6	1.3	1.4	.....	4380	3560	23.3	25.7	54.1	60	70	75	56
"	13th	79	12.5	91.5	790	125	915	15.2	15.2	15.2	1.5	1.2	1.3	.....	4060	3320	22.6	27.5	54.5	60	70	75	57
"	13th	45.5	8.5	54	455	85	540	17.1	9	13	1.5	.9	1.2	.....	4210	2400	24.3	22.5	53	50	70	70	58
"	13th	49.5	10	59.5	495	100	595	16.6	9.9	13.2	1.5	1.1	1.3	.....	4170	2860	24	20.8	50.8	55	70	75	59
"	13th	61.5	9.5	71	615	95	710	17.5	11.8	14.6	1.6	1.1	1.3	.....	4350	2970	24.2	23.9	52	60	70	75	60

In briefly reviewing these results of the field experiments we shall examine—
First, the plots which received no manure;
Secondly, the plots which received farm-yard manure;
Thirdly, the plots which received one artificial fertilizer;
Fourthly, the plots which received two artificial fertilizers;
Fifthly, the plots which received all three artificial fertilizers;

1st. The plots which received no manure are—No. 30 of Range II. and No. 45 of Range III. Per acre, the bushels of market grain from plot 30 were, 6.9; from plot 45, 10.1. The average of the two plots is 8.5, three bushels of wheat per acre less than the average of last year.

2nd. The results obtained from the plots treated with farm-yard manure—plot 25, Range II. and plot 50, Range III.—are nearly uniform. Per acre, the bushels of market grain from plot 25 were, 24.1; from plot 50, 21.5. The average of the two plots, expressed in bushels of wheat per acre is 22.9, being four bushels more than last year's average per acre.

3rd. The plots which received one artificial fertilizer are Nos. 40, 39, and 38, of Range II.; and Nos. 41, 42, and 43, of Range III.

Per acre, the yield of plot 40—nitrate of soda, two thirds ration—was, 10.5 bushels; the yield of plot 39—superphosphate, two-thirds ration—was, 13.2 bushels; and the yield of plot 39—muriate of potash, two thirds ration—was 10.5 bushels.

Turning to the plots of Range III. we notice little difference in the results. Per acre, plot 41—nitrogen mixture, two-thirds ration—yielded 8.9 bushels; plot 42—Superphosphate, two-thirds ration—13.4 bushels; and plot 43—muriate of potash, two-thirds ration—12.3 bushels.

The difference between the returns of the three last mentioned plots this year and last, is really remarkable. The average of the returns from two-thirds ration of simple fertilizers was last year, equal to the average obtained from heavy dressings of farm-yard manure; this year it is only 11.5 bushels per acre.

4th. The plots which received two artificial fertilizers are Nos. 37, 36, and 35, of Range II.; and Nos. 44, 46, and 47, of Range III. The average this year from each of the two sets is 14 bushels per acre; last year the average from one set was, 19.4 bushels per acre, and the average from the other only 12.2 bushels per acre. The highest yield was obtained both years from plot 46, two-thirds ration, muriate of potash and superphosphate, last year the yield being 22.4 bushels per acre, this year 21.2 bushels per acre.

5th. The plots which received all three artificial fertilizers will be best considered in groups.

1. Nitrogen Group.

(*a*) Nitrate of Soda Set.
(*b*) Ammonium Sulphate Set.
(*c*) Organic Nitrogen—Dried Blood Set.

In these three sets of the Nitrogen Group there were used two-thirds rations of superphosphate of lime and muriate of potash, with one-third, two-thirds, and full rations of the nitrogen in each form.

(*a*) *Nitrate of Soda Set*—Plots 34, 33, and 32, Range II. Like last year, no account can be given of them. They occupy a low part of the field and are to all appearance barren. We purpose studying the physical and chemical properties of the soil in order if possible to discover the cause of the failure.

(*b*) *Ammonium Sulphate Set*—Plots 31, 29, and 28, Range II.

Per acre, the yield of 31—one-third ration—was 8.7 bushels; the yield of 29—two-thirds ration—was 18 bushels; the yield of 28—full ration—was, 20.8 bushels. The difference last year between the lowest and highest yield, was 4½ bushels; this year the difference between the lowest and highest yield is 12 bushels.

(*c*) *Dried Blood Set*—Plots 27, 26, and 24, Range II. Per acre, the yield from plot 27—one-third ration—was 23.7 bushels; that from plot 26—two-thirds ration—was, 26.7 bushels; and that from plot 24—full ration—was, 22.8 bushels. This year, the average

from the three plots is 23.7 bushels per acre; last year it was only 16.8 bushels per acre. The average return from the plots treated with farm-yard is one bushel per acre less than the average from the plots treated with dried blood.

2. Muriate of Potash Group.

In the one set of this group, there were two-thirds rations of superphosphate of lime and nitrate of soda used with one-third, two-thirds, and full rations of muriate of potash. The plots are 23, 22, and 21, Range II.

Per acre, the yield from plot 23—one-third ration—was, 18.4 bushels; that from plot 22—two-thirds ration—was, 14 bushels; and that from plot 21—full ration—was, 19 bushels. The average per acre from these plots is two bushels less this year than last.

3. Phosphoric Acid Group.

(*a*) Soluble Phosphoric Acid Set.
(*b*) Precipitated Phosphoric Acid Set.
(*c*) Insoluble Phosphoric Acid Set.

In these three sets of the phosphoric acid group, there were two-thirds rations of nitrogen mixture and muriate of potash used with one-third, two-thirds, and full rations of phosphoric acid in each form.

(*a*) *Soluble Phosphoric Acid Set*—Plots 48, 49, and 51, Range III. Per acre, the yield of plot 48—one-third ration—was, 20.3 bushels; that of plot 49—two-thirds ration—was, 23.8 bushels; and that of plot 51—full ration—was, 18.6 bushels. The same peculiarity that occurred last year in these plots occurs this year, viz. a greater yield is obtained from the two-thirds ration than from the full. The average from the three plots last year was 18.5 bushels per acre; the average this year is 20.9 bushels per acre.

(*b*) *Precipitated Phosphoric Acid Set*—Plots 52, 53, and 54, Range III. Per acre, the yield from plot 52—one-third ration—was, 19½ bushels; that from plot 53—two-thirds ration—was 24 bushels; and that from plot 54—full ration—was 22 bushels. The highest return, last year, of all the plots came from plot 54 of this set. This year plot 53 of the set stands nearly two bushels per acre over the average of the farm-yard manure plots.

(*c*) *Insoluble Phosphoric Acid Set*—Plots 55, 56, and 57, Range III. Per acre, the yield from plot 55—one-third ration—was 14.5 bushels; that from plot 56—two-thirds ration—was 15.2 bushels; and that from plot 57—full ration—was 15.2 bushels. The average of the three plots is nearly three bushels less than that of last year.

4. *Sulphate of Lime Group*—Plots 58, 59, and 60, Range III. The average last year from the three plots of this group was 17 bushels per acre; this year it is only 14.9 bushels per acre.

Taking the average of the different sets of plots as indicative of the comparative worth of the manures applied, the following series is not without interest.

(1) No manure—average of 2 plots—8.5 bushels per acre.

(2) Artificial fertilizers used singly—average of 6 plots—11.4 bushels per acre.

(3) Two artificial fertilizers used on each plot—average of 6 plots—14 bushels per acre.

(4) Complete fertilizers.

(*a*) Phosphoric acid and potash with *different rations of nitrate of soda, nothing.*

(*b*) Nitrogen mixture and potash with different rations of *insoluble phosphoric acid*—average of three plots—14.9 bushels per acre.

(*c*) Nitrogen mixture and potash with different rations of *sulphate of lime*—average of 3 plots—14.9 bushels per acre.

(*d*) Sodium Nitrate and Superphosphate of lime with different rations of *muriate of potash*—average of three plots—17.1 bushels per acre.

(*e*) Superphosphate of lime and muriate of potash with different rations of *ammonium sulphate*—average of three plots—19.4 bushels per acre.

(*f*) Nitrogen mixture and muriate of potash with different rations of *soluble phosphoric acid*—average of three plots—20.9 bushels per acre,

(*g*) Nitrogen mixture and muriate of potash with different rations of *precipitated phosphoric acid*—average of three plots—21.9 bushels per acre.

(*h*) *Farm-yard manure*—fifteen tons per acre—average of two plots—22.9 bushels per acre.

(*i*) Muriate of lime and superphosphate of lime with different rations of *dried blood*—average of three plots—23.7 bushels per acre.

The remarks made on the results of these plots last year, cannot be given this year, Professor Brown having most liberally drained the field. The brilliant prospects of early summer were, this year, destroyed by rust.

2. Amount and composition of rain water collected from the large rain gauge of experimental field.

Through the active co-operation of Professor Brown, the laboratory of the experimental field was in structure and furnishings complete at the end of July. Since the first of October, the educational work of the College has kept me actively engaged; in consequence, there has been little time for practical work.

Since the first of June an account has been kept of the amount of the rain water, and of the nitrogen, in the form of ammonia and nitric acid, which the rain water held.

The amount of chlorine has been in most cases so small we have given it no place in this year's return.

To determine the sulphuric acid, rain water in which all the rains were represented, was taken.

By enlarging the work we have already done, we hope, at the end of 1885, to be able to give the full composition of the rain water that falls upon Guelph.

In the following table, the date of the rain fall, its depth in inches, the nitrogen as free ammonia and as nitric acid, and the sulphuric acid which it contains, are given in parts per million; there is also given the direction the wind blew on the rainy days.

AMOUNT AND COMPOSITION of Rain-Water from June 1st to end of year 1884.

RATE OF RAINFALL.		DEPTH IN INCHES.	NITROGEN AS FREE AMMONIA.	NITROGEN AS NITRIC ACID.	SULPHURIC ACID.	Direction of Wind.
Month.	Day.		Per million of Rain.	Per million of Rain.	Per million of Rain.	
June	2nd	0.014	1.300	0.24		W. S.W. W.
"	3rd	0.006	1.800			W. N.W. N.
"	8th	0.520	0.182	0.069		S.W.
"	10th	0.082	0.250	0.10		E. N.E. N.
"	21st	0.632	0.750	0.12		E. W. N.W.
"	23rd	0.006	2.700	0.096		S.E. S.W.
"	24th	0.246	0.135	0.17		S.W. W.
"	25th	0.566	1.470	0.12		N.E.
July	4th	0.382	0.900	0.26		E. S.E. S.
"	5th	0.222	0.422	0.25		S.W.
"	12th	0.416	0.140	0.053		S.W.
"	18th	0.006	2.800	0.178		N.W. W. S.W.
"	23rd	0.018	2.000	0.14		W.
"	24th	0.098	0.396	0.117		W.
"	27th	0.294	0.376	0.047		W.
"	31st	0.719	0.149	0.096		S. N.W. N.
August	4th	0.688	0.168	0.14		S.W. W. N.W.
"	5th	0.239	0.418	0.062		N.W. S.W. S.W.
"	12th	0.072	2.700	0.053		S.W. S.E. S.E.
"	26th	0.044	0.254	0.085		W. N.W.
"	28th	0.738	0.240	0.102		S.W. S.E.
"	31st	0.060	0.566	0.099		W. N.W.
September	6th	0.084	0.798	0.151		W.
"	7th	0.312	0.921	0.103		W.
"	10th	0.118	1.220	0.150		S.W. S.
"	15th	0.014	1.804	0.120	The rain-water	S. S.W.
"	16th	0.016	3.875	0.130	in which all the	S.W.
"	19th	0.156	1.344	0.060	rains were re-	N.W.
"	21st	0.156	0.611	0.060	presented, gave	N.W. S.W.
"	22nd	0.616	0.712	0.080	0.270.	W. E.
"	23rd	0.210	0.712	0.155		N.E. E.
"	24th	0.620	0.306	0.040		S. S.W.
"	26th	0.786	0.081	0.060		N.W. S.W.
"	27th	0.258	0.093	0.040		S.W.
"	28th	0.067	0.435	0.050		S.W.
"	30th	0.031	0.632	0.040		S.E. S.
October	1st	0.213	0.083	0.050		W. N. N.E.
"	2nd	0.241	0.076	0.050		N.E. E.
"	4th	0.081	0.464	0.070		N.E.
"	5th	0.053				N.E.
"	8th	0.248	0.547	0.080		N.E.
"	11th	0.624	0.365	0.045		S.W.
"	15th	0.020	1.190	0.070		N. S.W.
"	17th	0.074	0.408	0.080		N.W.
"	19th	0.015	0.680	0.070		S.W.
"	21st	0.888	0.260	0.076		S.E. S.W.
"	22nd	0.070	0.431	0.030		W.
"	23rd	0.050	0.461	0.090		W.
"	24th	0.098				W. S.W.
"	26th	0.130	0.451	0.030		E.
"	27th	0.032	0.203	0.080		S.W.
"	31st	0.254	0.491	0.060		E.S. S.W.
November	1st	0.330	0.909	0.104		W. S.W. N.W.
"	4th	0.750	0.175	0.085		E. S.W
December	7th	0.540	0.413	0.094		S.W. W.

3. Amount and composition of the drainage-water from the six drain gauges of the experimental field.

The structure of these drain-gauges or lysimeters was given in last year's report. Lysimeters Nos. I., II., and III. were filled with soil of one of the experimental field plots; a characteristic loam was placed in No. IV.; a stiff clay in No. V.; and a light sandy soil in No. VI.

Upon lysimeter No. I., a permanent pasture sod was placed. It received, June 21st, a dressing of 2.8 lbs, of farm-yard manure.

Lysimeter No. II. was treated as a bare fallow. June 9th, the first plowing took place; June 21st, 2.8 lbs. of farm-yard manure were plowed under and the soil harrowed,

Upon lysimeter No. III. a crop was grown. May 14th, 2.8 lbs. of farm-yard manure were plowed under, and Russian Spring Wheat sown.

Lysimeter Nos. IV., V. and VI., containing the loam clay and sand, have been treated in like manner. The manures used for these plots were of like quality and of equal weight. June 16th, the three soils were sown with Swedish turnips. The plants appeared above ground on the loam, June 21st; on the sand, June 23rd; and on the clay, the plant growth was so slow at the beginning, some feared no growth would take place. July 9th, the plants were hoed and thinned, the roots of the seed of No. V. appearing very small.

We have only received drainage water from two of the lysimeters, Nos. II. and V. The first drainage water came from the clay, the first drops falling the first week in May. May and June, the drainage water from the clay amounted to 2010 c.c.; July and August, 1939 c.c.; September and October 8145 c.c.; and November 12600 c.c

From No. II., the lysimeter treated as a bare fallow, the first drainage water became visible July 9th; it was not, however, until the end of October that sufficient water for full analysis was forthcoming. The drainage water from the fallow at the end of October was, 4860 c.c.; at the end of November it amounted to 7842 c.c.

We shall now indicate the composition of the drainage water by the use of two columns of figures—the solid matter lost by a lysimeter forming the first, and the loss per acre the second.

LYSIMETER NO. V.—CLAY.

I.—May and June.

1. *Lysimeter Loss.* 2. *Loss per Acre.*

	Grammes.	Grammes.
1. Silica	0.0048	48.0
2. Alumina and Ferric Oxide	.....	.....
3. Lime	0.2072	2072.0
4. Magnesia	0.0044	44.0
5. Sulphuric Acid	0.0052	52.0
6. Phosphoric Acid	0.0056	56.0
7. Alkalies in form of Chlorides	0.0427	427.0

Per million of drainage water,

1. Nitrogen as free Ammonia	0.201
2. Nitrogen as Nitric Acid	0.177

II.—July and August.

	1. *Lysimeter Loss.* Grammes.	2. *Loss per Acre.* Grammes.
1. Silica	0.0192	192.0
2. Alumina and Ferric Oxide	.....	.....
3. Lime	0.1908	1908.0
4. Magnesia	0.0016	16.0
5. Sulphuric Acid	0.0049	49.0
6. Phosphoric Acid	0.0040	40.0
7. Alkalies in form of Chlorides	0.0356	356.0

Per million of Drainage water,

1. Nitrogen as free Ammonia	0.211
2. Nitrogen as Nitric Acid	0.187

II.—September and October.

	1. *Lysimeter Loss.* Grammes.	2. *Loss per Acre.* Grammes.
1. Silica	0.1800	1800.0
2. Alumina and Ferric Oxide	.....	.....
3. Lime	0.8878	8878.0
4. Magnesia	0.0904	904.0
5. Sulphuric Acid	0.0179	179.0
6. Phosphoric Acid	0.0236	236.0
7. Alkalies in form of Chlorides	0.1050	1050.0

Per million of drainage water,

1. Nitrogen as free Ammonia	0.213
2. Nitrogen as Nitric Acid	0.125

IV.—November.

	1. *Lysimeter Loss.* Grammes.	2. *Loss per Acre.* Grammes.
1. Silica	0.0680	680.0
2. Alumina and Ferric Oxide	0.0340	340.0
3. Lime	1.4099	14099.0
4. Magnesia	0.1247	1247.0
5. Sulphuric Acid	0.0932	937.0
6. Phosphoric Acid	0.0315	315.0
7. Alkalies in form of Chlorides	0.5644	5644.0

Per million of drainage water,

1. Nitrogen as free Ammonia	0.162
2. Nitrogen as Nitric Acid	0.156

LYSIMETER NO. II.—BARE FALLOW.

I.—September and October.

	1. *Lysimeter Loss.* Grammes.	2. *Loss per Acre.* Grammes.
1. Silica	0.0247	247.0
2. Alumina and Ferric Oxide	.....	.....
3. Lime	0.3781	3781.0
4. Magnesia	0.2148	2148.0
5. Sulphuric Acid	0.0233	233.0
6. Phosphoric Acid	0.0106	106.0
7. Alkalies in form of Chlorides	0.1817	1817.0

Per million of drainage water,

1. Nitrogen as free Ammonia	0.236
2. Nitrogen as Nitric Acid	0.201

II.—November.

	1. *Lysimeter Loss.* Grammes.	2. *Loss per Acre.* Grammes.
1. Silica	0.0235	235.0
2. Alumina and Ferric Oxide	0.0196	196.0
3. Lime	0.8414	8414.0
4. Magnesia	0.2917	2917.0
5. Sulphuric Acid	0.0823	823.0
6. Phosphoric Acid	0.0164	164.0
7. Alkalies in form of Chlorides	0.3544	3544.0

Per million of drainage water,

1. Nitrogen as free Ammonia	0.174
2. Nitrogen as Nitric Acid	0.219

3. Soil Temperature.

The "series of experiments for the purpose of ascertaining some facts in reference to the temperature of different soils exposed to similar conditions," promised by Professor Panton in the report of 1881, and by the writer in the report of 1882, were commenced in the spring of this year. The soil thermometers were purchased from J. and H. T. Green, 757 Broadway, New York, and were inserted in the soil, first, one inch; second, three inches; third, six inches; fourth, nine inches; fifth, twelve inches; sixth, twenty-four inches; seventh, thirty-six inches; and eighth, forty-eight inches. Between the first of May and the first of November, the variations in soil temperature, at these different depths, were closely followed. Three readings were taken daily, 7 a.m., 2 p.m., and 9 p.m. The maximum, minimum, and mean of these readings are given in the following table:

May.

1. Thermometer, No. 1; depth in soil, 1 inch.
   Maximum temperature, 25th, 2 p.m., 78.3°.
   Minimum " 3rd, 7 a.m., 36.5°.
   Mean " of month, 53.3°.

2. Thermometer, No. 2 ; depth in soil, 3 inches.
Maximum temperature, 25th, 2 p.m., 77.3°.
Minimum " 3rd, 7 a.m., 37°.
Mean " of month, 42.2°.

3. Thermometer, No. 3 ; depth in soil, 6 inches.
Maximum temperature, 25th, 2 p.m., 72°.
Minimum " 16th, 17th, 7 a.m., 40.5°.
Mean " of month, 52.6°.

4. Thermometer, No. 4 ; depth in soil, 9 inches.
Maximum temperature, 25th, 2 p.m., 63.5°.
Minimum " 11th, 16th, 7 a.m., 42.°.
Mean " of month, 50.9°.

5. Thermometer, No. 5 ; depth in soil, 12 inches.
Maximum temperature, 25th, 9 p.m., 59.5°.
Minimum " 11th, 7 a.m.; 15th, 9 p.m.; 16th, 7 a.m., 44°.
Mean " of month, 49.4°.

6. Thermometer, No. 6 ; depth in soil, 24 inches.
Maximum temperature, 26th, 2 p.m., 56°.
Minimum " 4th, 2 p.m., 7 a.m., 44°.
Mean " of month, 52.4°.

7. Thermometer, No. 7 ; depth in soil, 36 inches.
Maximum temperature, 28th, 2 p.m., 50.5°.
Minimum " 1st, 7 a.m., 42°.
Mean " of month, 45.8°.

8. Thermometer, No. 8 ; depth in soil, 48 inches.
Maximum temperature, 27th, 29th, 30th, 31st, *steady*, 48°.
Minimum " 1st, 2nd, 3rd, *steady*, 41°.
Mean " of month, 44.4°.

June.

1. Thermometer, No. 1 ; depth in soil, 1 inch.
Maximum temperature, 17th, 2 p.m., 99.5°.
Minimum " 14th, 9 p.m., 48°.
Mean " of month, 70.8°.

2. Thermometer, No. 2 ; depth in soil, 3 inches.
Maximum temperature, 30th, 2 p.m., 98°.
Minimum " 13th, 9 p.m., 51°.
Mean " of month, 70.4°.

3. Thermometer, No. 3 ; depth in soil, 6 inches.
Maximum temperature, 30th, 2 p.m., 86.5°.
Minimum " 15th, 26th, 7 a.m., 54°.
Mean " of month, 68.8°.

4. Thermometer, No. 4 ; depth in soil, 9 inches.
Maximum temperature, 20th, 22nd, 23rd, 30th., 2 p.m., 77°.
Minimum " 15th, 26th, 27th, 7 a.m., 56°.
Mean " of month, 66.5°.

5. Thermometer, No. 5 ; depth in soil, 12 inches.
Maximum temperature, 22nd, 9 p.m., 71.7°.
Minimum " 7th, 9th p.m., 55.5°.
Mean " of month, 63.2°.

6. Thermometer, No. 6 ; depth in soil, 24 inches.
Maximum temperature, 25th, 7 a.m., 65°.
Minimum " 1st, 7 a.m. and 2 p.m., 52°.
Mean " of month, 58.7°.

7. Thermometer, No. 7 ; depth in soil, 36 inches.
Maximum temperature, 26th, 7 a.m., 60.7°.
Minimum " 1st, 7 a.m., 2 p.m., 49°.
Mean " of month, 55.8°.

8. Thermometer, No. 8 ; depth in soil, 48 inches.
Maximum temperature, 26th, 27th, steady, 30th, 57.4°.
Minimum " 1st, 2nd, steady, 48°.
Mean " of month, 52.9°.

July.

1. Thermometer, No. 1 ; depth in soil, 1 inch.
Maximum temperature, 29th, 2 p.m., 99°.
Minimum " 14th, 9 p.m., 50°.
Mean " of month, 69.6°.

2. Thermometer, No. 2 ; depth in soil, 3 inches.
Maximum temperature, 1st, 3rd, 2 p.m., 95.5°.
Minimum " 15th, 7 a.m., 50.5°.
Mean " of month, 68°.

3. Thermometer, No. 3 ; depth in soil, 6 inches.
Maximum temperature, 27th, 2 p.m., 92°.
Minimum " 15th, 7 a.m., 51°.
Mean " of month, 67.6°.

4. Thermometer, No. 4 ; depth in soil, 9 inches.
Maximum temperature, 1st, 2 p.m., 78.5°.
Minimum " 15th, 7 a.m., 54°.
Mean " of month, 67.3°.

5. Thermometer, No. 5 ; depth in soil, 12 inches.
Maximum temperature, 1st, 9 p.m., 72.2°.
Minimum " 13th, 2 p.m., 53°.
Mean " of month, 64°.

6. Thermometer, No. 6 ; depth in soil, 24 inches.
Maximum temperature, 1st, 9 p.m., 74.5°.
Minimum " 13th, 2 p.m., 52°.
Mean " of month, 62°.

7. Thermometer, No. 7 ; depth in soil, 36 inches.
Maximum temperature, 31st, 2 p.m., 9 p.m., 61.5°.
Minimum " steady, 16th, 17th, 18th, 19th, 20th, 21st, 58.5°.
Mean " of month, 60.1°.

8. Thermometer, No. 8 ; depth in soil, 48 inches.
Maximum temperature, 31st, 9 p.m., 59.5°.
Minimum " 19th, 22nd and 23rd, 57.2°.
Mean " of month, 57.7°.

August.

1. Thermometer, No. 1 ; depth in soil, 1 inch.
Maximum temperature, 19th, 20th, 2 p.m., 99°.
Minimum " 23rd, 9 p.m., 50°.
Mean " of month, 69.3°.

2. Thermometer, No. 2 ; depth in soil, 3 inches.
Maximum temperature, 20th, 2 p.m., 98.5°.
Minimum " 28th, 31st, 51°.
Mean " of month, 68.8°.

3. Thermometer, No. 3 ; depth in soil, 6 inches.
Maximum temperature, 20th, 2 p.m., 85°.
Minimum " 28th, 7 a.m., 50°.
Mean " of month, 67.1°.

4. Thermometer, No. 4 ; depth in soil, 9 inches.
Maximum temperature, 20th, 2 p.m., 77°.
Minimum " 31st, 9 p.m., 51°.
Mean " of month, 68.5°.

5. Thermometer, No. 5 ; depth in soil, 12 inches.
Maximum temperature, 21st, 9 p.m., 73°.
Minimum " 10th, 7 a.m., 60°.
Mean " of month, 65.1°.

6. Thermometer, No. 6 ; depth in soil, 24 inches.
Maximum temperature, 15th, 9 p.m., 21st, 2 p.m., 69°.
Minimum " 10th, 7 a.m., 61°.
Mean " of month, 63.9°.

7. Thermometer, No. 7 ; depth in soil, 36 inches.
Maximum temperature, 21st, 22nd, *steady*, 64°.
Minimum " 12th, 13th, *steady*, 60.5°.
Mean " of month, 61.9°.

8. Thermometer, No. 8 ; depth in soil, 48 inches.
Maximum temperature, 23rd, 24th, *steady*, 62°.
Minimum " 1st, 9 p.m., 59.1°.
Mean " of month, 60.5°.

September.

1. Thermometer, No. 1 ; depth in soil, 1 inch.
Maximum temperature, 5th, 10th, 2 p.m., 95°.
Minimum " 2nd, 9 p.m., 43°.
Mean " of month, 64.3°.

2. Thermometer, No. 2 ; depth in soil, 3 inches.
Maximum temperature, 5th, 10th, 2 p.m., 92°.

Minimum temperature, 20th, 9 p.m., 45°.
Mean " of month, 64.5°.

3. Thermometer No. 3; depth in soil, 6 inches.
Maximum temperature, 10th, 2 p.m., 83°.
Minimum " 26th, 7 a.m., 48°.
Mean " of month, 63.4°.

4. Thermometer, No. 4; depth in soil, 9 inches.
Maximum temperature, 10th, 2 p.m., 75.5°.
Minimum " 9th, 7 a.m., 47.8°.
Mean " of month, 62.8°.

5. Thermometer, No. 5; depth in soil, 12 inches.
Maximum temperature, 11th, 9 p.m., 71°.
Minimum " 23rd, 7 a.m., 2 p.m., 55°.
Mean " of month, 62°.

6. Thermometer, No. 6; depth in soil, 24 inches.
Maximum temperature, 10th, 18th, *steady*, 66.5°.
Minimum " 24th, *whole day*, 57.5°.
Mean " of month, 60.4°.

7. Thermometer, No. 7; depth in soil, 36 inches.
Maximum temperature, 11th, *whole day*, 63.5°.
Minimum " 25th, 7 a.m., 2 p.m., 58°.
Mean " of month, 60.6°.

8. Thermometer, No. 8; depth in soil, 48 inches.
Maximum temperature, 13th, 7 a.m., 2 p.m., 61.8°
Minimum " 25th, 2 p.m., 58°.
Mean " of month, 59.9°.

October.

1. Thermometer No. 1; depth in soil 1 inch.
Maximum temperature, 5th, 2 p.m., 78°.
Minimum " 23rd, 9 p.m., 29°.
Mean " of month, 48°.

2. Thermometer, No. 2; depth in soil, 3 inches.
Maximum temperature, 5th, 2 p.m., 77°.
Minimum " 9th, 14th, 7 a.m., 32.5°.
Mean " of month, 48.3°.

3. Thermometer, No. 3; depth in soil, 6 inches.
Maximum temperature, 4th, 2 p.m., 69.5°.
Minimum " 14th, 7 a.m., 34°.
Mean " of month, 50.2°.

4. Thermometer, No. 4; depth in soil, 9 inches.
Maximum temperature, 4th, 5th, 66°.
Minimum " 26th, 29th, 37°.
Mean " of month, 51°.

5 Thermometer, No. 5 ; depth in soil, 12 inches
Maximum temperature, 4th, 2 p.m. 61.5°.
Minimum " 29th, 7 a.m., 39°.
Mean " of month, 51.7°.

6. Thermometer, No. 6 ; depth in soil, 24 inches.
Maximum temperature, 2nd, 2 p.m., 9 p.m., 61°
Minimum " 30th, 7 a.m., 46.5°.
Mean " of month, 53.8°.

7. Thermometer No. 7 ; depth in soil, 36 inches.
Maximum temperature, 2nd, *whole day*, 59.5°.
Minimum " 30th, 31st, *whole days*, 49°.
Mean " of month, 54.9°.

8. Thermometer, No. 8 ; depth in soil, 48 inches.
Maximum temperature, 1st, 2nd, 3rd, 4th, *steady*, 58.5°.
Minimum " 31st, *whole day*, 50.5°.
Mean " of month 55.4°.

Summary of Observations with Soil Thermometers.

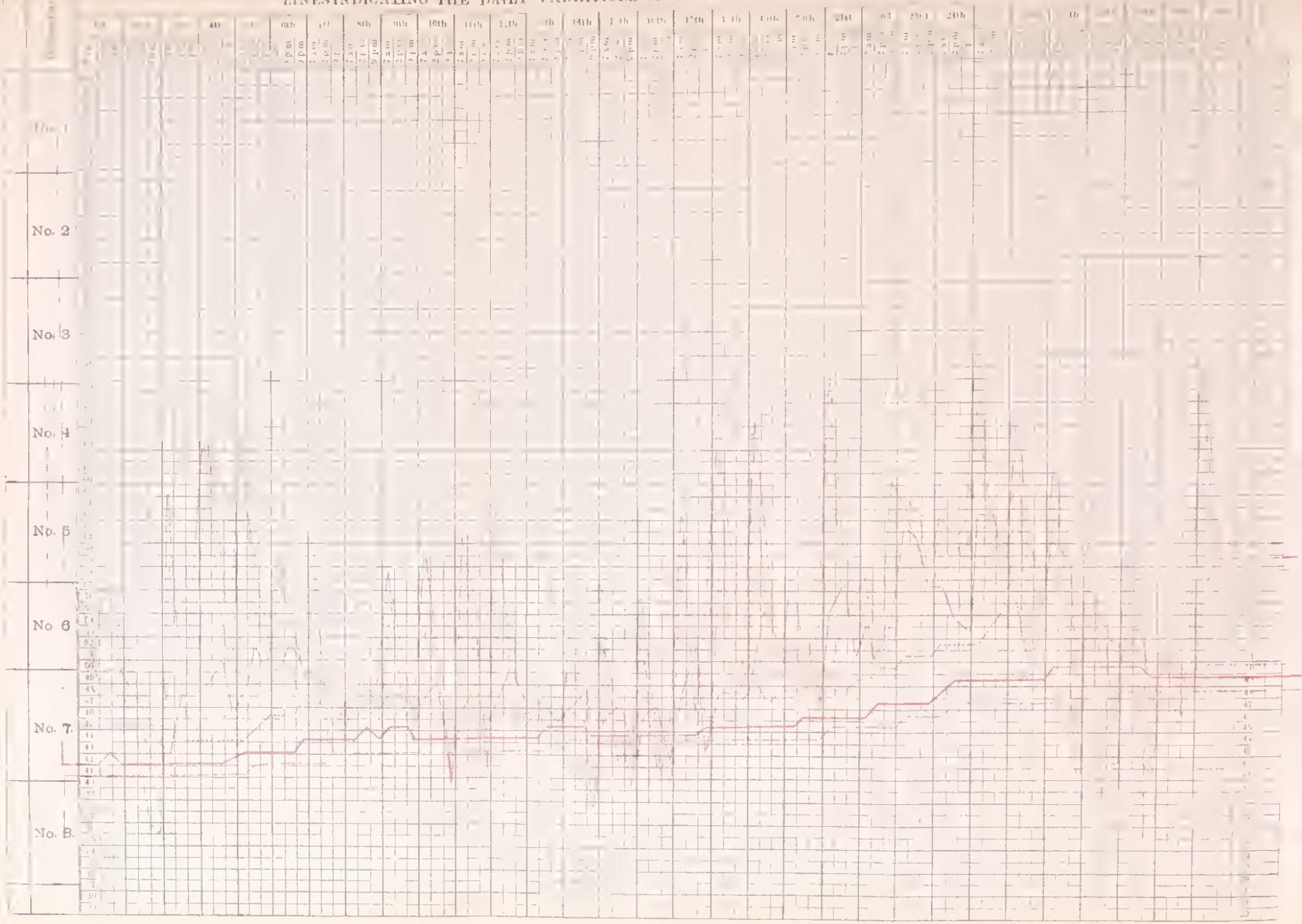
MONTH.	No. 1. 1 Inch.			No. 2. 3 Inches.			No. 3. 6 Inches.			No. 4. 9 Inches.			No. 5. 12 Inches.			No. 6. 24 Inches.			No. 7. 36 Inches.			No. 8. 48 Inches.		
	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.	Maximum.	Minimum.	Mean.
May	78.3	36.5	53.3	77.3	37	42.2	72	41*	52.6	63.5	*42	50.9	59.5	*44	49.4	56	*44	57.4	50.5	42	45.8	*48	*41	44.4
June	99.5	48	70.8	98	51	70.4	86.5	54	68.8	*77	*56	66.5	71.7	55.5	63.2	65	*52	58.7	60.7	49	55.8	*57.4	*48	52.9
July	99	50	69.6	*95.5	50.5	68	92	51	67.6	78.5	54	67.3	72.2	53	64	74.5	52	62	*61.5	*58.5	60.1	59.5	*59.2	57.7
August	99*	50	69.3	98.5	51*	68.8	85	50	67.1	77	51	68.5	73	60	65.1	*69	61	63.9	*64	*60.5	61.9	*62	*59.3	60.5
September	92*	43	64.3	*92	45	64.5	83	48	63.4	75.5	47.8	62.8	71	*55	62	*66.5	*57.5	60.4	*63.5	*58	60.6	*61.8	*58.2	59.9
October	78	29	48	77	32.5	48.3	69.5	34	50.2	*66	*37	51	61.5	39	51.7	61	46.5	53.8	*59.5	*49	54.9	*58.5	*50.5	55.4

* Occurrence more than once.

THE TEMPERATURE OF THE SOIL of the Experimental

THERMOMETER.	DEPTH IN SOIL.	TIME OF READING.	MAY. 1	2	3	4	5	6	7	8	9	10
No. 1.	1 inch.	7 a.m.	61	61.8	59.5	59.5	67	66	71.8	73	71.2	50.5
		2 p.m.	84	85	84.2	88.3	86.6	81	82.5	78	76	59
		9 p.m.	81	62	61.5	64.3	68	64.3	64.5	66	52.5	56.5
No. 2.	3 inches	7 a.m.	57	58.5	59.2	56.6	62.2	63.5	66.5	68	67.8	51.7
		2 p.m.	79	81.8	81.7	84.5	83.3	81	82.5	79	78	59
		9 p.m.	61	64	63.5	66.3	69	66.3	67	67	55	56.5
No. 3.	6 inches	7 a.m,	57	56.5	58.5	56	58.8	61.5	60	64	62.8	55
		2 p.m.	78	72.5	72.8	75.2	75.9	74.5	76.2	78	76	58
		9 p.m.	68	67	67.2	69.5	71	69.5	69	71	60	56
No. 4.	9 inches	7 a.m.	57	56	58.2	57.3	59.2	62	60.5	65	63	57.5
		2 p.m.	65	64.8	65.2	66.7	67.8	68.5	70	75	70.3	58
		9 p.m,	63	66	66.2	68.3	69	68.3	69	70	64.5	56.5
No. 5.	12 inches	7 a.m.	56	55.8	58	58.2	60	61.5	61	64	63	60
		2 p.m.	59	57.2	58.2	59.5	61	62.2	62	66	63.7	58.5
		9 p.m.	56	60.5	61.7	63	64	63	55.5	66	64.5	57.5
No. 6.	24 inches	7 a.m.	52	52.5	54	55	56.2	57	58	59	59	59
		2 p.m.	52	53	54.7	55.5	56.3	57	57.8	60	59	58.5
		9 p.m.	52.5	53	54.7	55.5	56.5	55.3	58	58.5	59	57
No. 7.,	36 inches	7 a.m.	49	49.3	50	51	52	52.5	53.5	54	54.6	55
		2 p.m.	49	50	50.7	51.5	52.5	53	53.7	54	54.7	55
		9 p.m.	49.3	50	50.7	51.5	52.5	51.5	54	54.2	55	54.8
No. 8.	48 inches	7 a.m.	48	48	49.2	48.7	49.2	50	50.5	51	51.4	5.17
		2 p.m.	48	48	48.7	49	49.5	50	50.1	51	51.7	52
		9 p.m.	48	48.2	48.7	49	49.7	50	51	51.2	51.7	52

LINES INDICATING THE DAILY VARIATIONS OF THE SOIL IN TEMPERATURE, MAY, 1884.



Field at Depths varying from 1 to 48 inches.

MAY.

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
56.5	63	56.5	53.5	62	65.8	72.5	77	69.5	74	69	79.5	74	73.5	57.5	58	65	66.8	67.8	65.8	....
67	83	62.5	77	85.8	95.8	99.5	91.8	91.3	96	93	91	75.8	84	57.5	74.3	94.8	94	97.5	99	....
61.7	60.5	51	48	64	67	69	71	74	75	66	73.5	71	70.5	49.5	54	57	64	66.4	67	....
56.5	62.5	56	53.6	59	61.2	70	73.5	89	70	69	75.5	72	72	60.5	55.5	61.5	62.8	64	63	....
66.6	82.3	74.8	76.7	85	93.5	96	89.8	87.3	92	88	90	76.2	82.5	58.8	73.8	94	93	96	98	....
62.2	62.8	51	53	69	70	72.5	73	67.2	76	67	74.5	72	71.5	52	55.5	57	67.5	70	72	....
56.5	60.8	56.8	55	54	56	62.3	65.8	79.5	66	69	67.5	65	68	65.8	54	55.4	67	60.5	61.8	....
59.6	76	69.5	69	74.2	80.2	83.2	81.8	79.8	83.3	79	84.5	78.5	79	61.3	68.5	83	81	84.8	86.5	....
61.3	68.5	62	61	71	73.5	76.5	75.4	73	77.5	70.5	76.8	74	73.8	59	63	71	74	75.5	74	....
57.5	59.8	58.8	56.8	56	57.2	62.2	65	66.8	66.4	69	66.5	64	68.5	68	56	56	68.4	62	64	....
57.5	68.5	64.2	63.5	66.5	70.3	73.8	75.2	73.5	77	74	77	77	69.5	63.5	64.8	73	72	75.7	77	....
59	68.2	63	62.5	71	72.2	74.8	74	73	75.8	71.5	75.8	72	70.8	62	64.8	65	73.5	75.7	76	....
57.5	59	60.5	59	59	59.5	62.6	64.8	66	66.5	68	67.5	69	61.5	68	60.5	60	61.5	65	66.5	....
59	61	60.2	59.2	59.5	61.2	64.5	66.5	66.8	68.5	68	68.8	71	68.5	65.8	61.8	64	72	66	67.8	....
58.7	64.2	64	62	65	66	68.5	69	69	70.5	69.5	71.7	70	70.8	64	63.8	62	69	70.5	61	....
57	57	58	58	57.5	58	59.1	60.5	61.5	62.5	63	64	63	64.5	65	62.7	91.5	61.5	62.5	63.5	....
57	57	58	58	57.5	58	59.3	60.5	61.5	62.5	63	64	63.5	64.5	64.5	60.2	61.5	60	62.4	63.5	....
56.5	67.5	58	57.5	58	58.2	59.5	61	62	62.5	63.5	64.3	64	64.5	64	61.6	61	61.8	62.5	60	....
54.8	54.5	54.5	54.8	55	55	55.3	56	56.7	57.5	58.2	59.4	59	59.8	60	60.7	59.5	60	59	59.5	....
54.8	54.5	54.7	55	55	55.2	55.5	56.3	57	58	58.5	59.5	59	60	60.4	60.4	59.5	60	59.5	60	....
54.6	54.5	54.8	55	55	55.2	55.5	56.3	57.5	58	58.5	59.6	59	60.2	60.4	60	59.5	59	59.5	60	....
52	52.2	52.3	52.3	52.6	52.8	53	53.5	53.8	54.4	55	55.2	55	56.5	57	57	57.4	57	57	57	....
52.2	52.3	52.3	52.5	52.8	53	53.2	53.5	54	54.6	55.3	56.3	55.1	56.8	57	57.4	57.2	57	57	57.4	....
52.2	52.3	52.3	52.2	52.8	53	53.3	53.7	54.4	54.8	55.3	56.3	55.1	56.8	57	57.2	57	57	57	57.4	....

THE TEMPERATURE OF THE SOIL of the Experimental

THERMOMETER.	DEPTH IN SOIL.	TIME OF READING.	JUNE. 1	2	3	4	5	6	7	8	9	10
No. 1	1 inch	7 a.m.	66.5	66.5	66	64.5	65	62	58.3	60.5	59.7	62.5
		2 p.m.	97.5	89	98	66.5	78.1	77	78.5	85.8	85	86.5
		9 p.m.	71.5	65	68	65.5	57.8	56	55	56.5	59	59.5
No. 2	3 inches	7 a.m.	73.5	64.5	63.5	65.5	65.5	64	57	57.8	58.5	60
		2 p.m.	95.5	87	95.5	67.5	76	77	76.5	83	82	82
		9 p.m.	73.5	67.5	70	66	59	58	58	60	62	63
No. 3	6 inches	7 a.m.	66	65	61.5	66	65.2	63	56.5	55	55.5	59
		2 p.m.	87	81	85.5	67.5	72.3	72	71	75	77	75
		9 p.m.	78	73	75	68	65	61	64.8	67	67.5	68.5
No. 4	9 inches	7 a.m.	67	67	64	67	65	61	57.8	57.2	58	60.5
		2 p.m.	78.5	75	77	67.5	69	67	65.5	68.5	70.5	69.5
		9 p.m.	77	73.5	75	68	67.5	62	66	68	67.5	69
No. 5	12 inches	7 a.m.	68	68.5	66.8	67.7	65.3	60	60.3	61	61.8	62.5
		2 p.m.	69	69	68	67	65.8	61	61	62	62	64
		9 p.m.	72.2	70.3	71	67	67	62	64.2	65.5	65.5	66.5
No. 6	24 inches	7 a.m.	64.5	65	65	64.8	64	61	61.9	61.5	61.7	62
		2 p.m.	64.5	65	65	64.6	63.8	63	61.3	61.2	61.5	61.8
		9 p.m.	74.5	65	65.5	64.1	63.5	63	61.4	61.4	61.5	61.5
No. 7	36 inches	7 a.m.	60	60.5	61	61	61	60.5	60.5	60	59.5	59.5
		2 p.m.	60.4	61	61.2	61	61	60	60.2	60	59.8	59.8
		9 p.m.	60.5	61	61	61	61	60	60.1	59.7	59.8	59.8
No. 8	48 inches	7 a.m.	57.4	57.8	58	58.2	58.5	58.5	58.5	58.2	58	58
		2 p.m.	57.8	58	58.3	58.1	58.5	58.5	58.3	58.3	58	58
		9 p.m.	57.8	58	58.3	58.3	58.5	58.5	58.3	58	58	58

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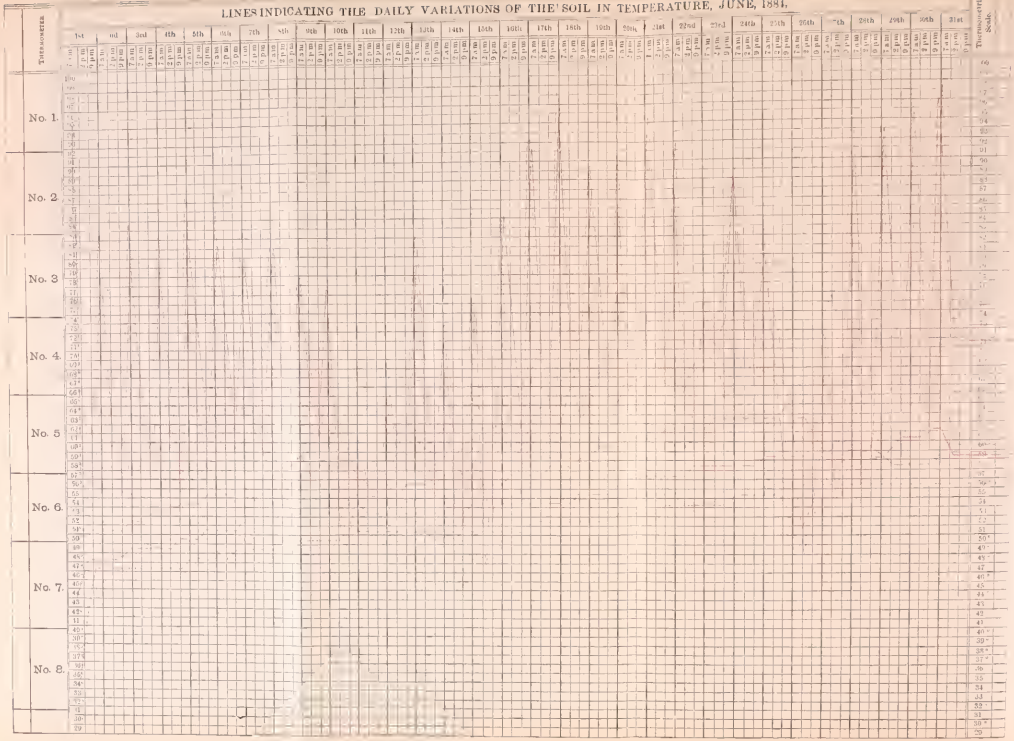
LINES INDICATING THE DAILY VARIATIONS OF THE SOIL IN TEMPERATURE, JUNE, 1884.



Field at Depths varying from 1 to 48 inches.

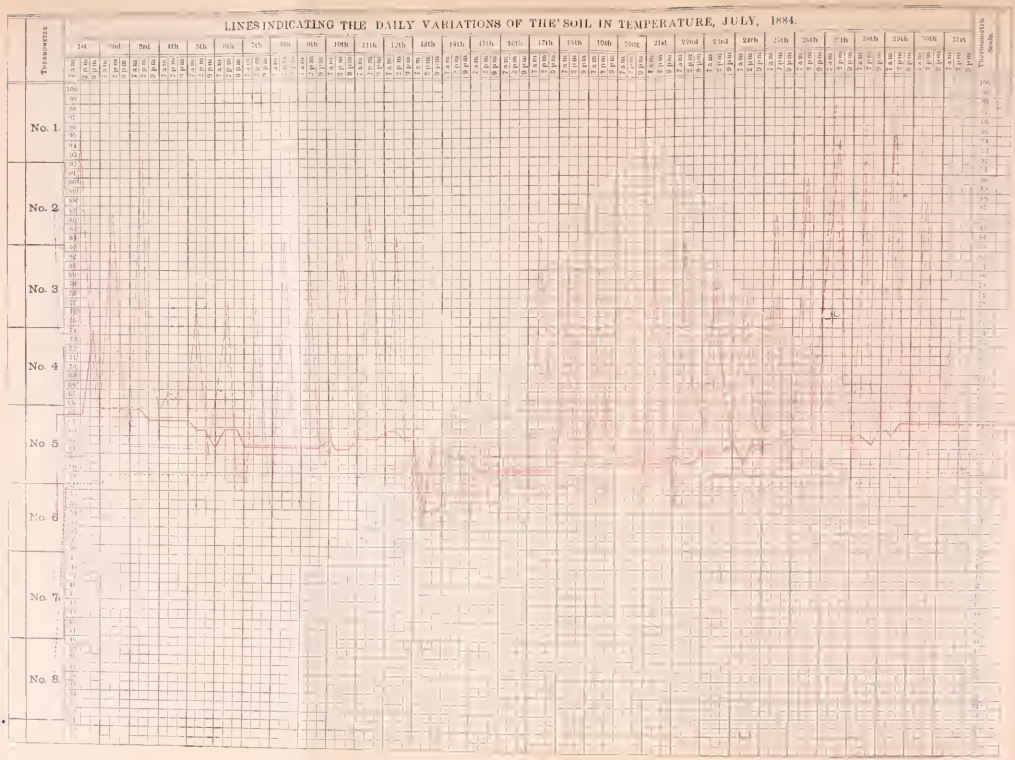
JUNE.

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
63	61	69	54	51	59	60	62	61	61	59.5	55.5	66	70.5	67	66	74	66	65	69	64
91	90	57	67.7	72	67	84	81	78.5	78	83	86.5	82	84	86.5	92.5	98	96	99	89	73
64.5	61	52	50	53	57	59	58	59	57.5	59	67	65	67	58	62	65	67.5	67	66	57
59.5	62	65	53.5	50.5	56.5	59	60	60.5	76.8	57	55.5	65.3	66.5	81.5	63	75	62.5	63.5	65	64
86.8	84	55	66.5	69	65	80	80	76.5	79	80	85	79	78	86	90.5	94	92.5	95	89	72
67	62	54	53	55	58	61.5	57	61	60	61.5	68	67	67	o2.5	65	68	69	70	68	59
57.5	63.5	59.5	54	51	54.5	57.5	75	60	62	55	57	64.1	61.8	62.8	59	75	59	63	62.5	65
78	72	55	64.8	65·8	61	70	78	68	70	70.8	72	69.5	69	78.5	79	92	80	82·	80	69
71	66	60	60	61.5	61	65	67	66	65.5	66.5	71	70.5	72	70	72	74	73	74.5	72	64
60	64	59.5	56	54	56	58	58	61	60	57	59	64.1	63	64	61.5	70.5	61	64.5	64.5	67
70	65	54.5	62	65.5	57	65	69	65	60.5	66.5	66	66.9	67	72.5	71	74	71.5	74	74	66
70	67	62	62	65.5	61	66	69	66	65.5	66.5	69.1	69.5	69	71	72	71	72.5	74	72	66
63	64.7	62	59.5	58	58.5	59	60	61.5	61	60.5	61	63.8	63.8	64.5	64	65.5	63.5	65.5	66.5	66.5
64	65	53	60	59	58.5	60	62	61.5	61.5	61	61.2	64	65	65	65	67	65	67	67	66.5
67	65.5	62.8	62	61.5	60	62.5	64	64	64	64	65	66	66	68	68.5	62	68.5	70	69	66.5
62	63.5	62	61	60	59.5	59.5	60	60.5	60.5	60.5	61	61	62.8	62.1	63	63	63	64	64	64.5
62	63	52	60.5	59.8	59.5	59	60	60.5	60.5	60.5	60.3	61	60	62.5	63	63	63	63.5	64	64.5
62	62	61.3	60.5	59	59.5	59.5	60.5	60.5	60.5	60	60.1	61	62	63	63	63	62.5	64	64	64.5
59.5	59.7	59.7	59.7	59	58.5	58.5	58.5	58.5	58.5	58.5	58.9	58.8	59	59.2	60	60.2	60.5	60.5	61	61
59.9	59.7	58.7	59.5	59	58.5	58.5	58.5	58.5	58.5	58.9	58.8	59	59.2	59.9	60.2	60.2	60.5	60.8	61	61.5
59.5	59.7	59.7	59.5	59	58.5	58.5	58.5	58.5	58.5	58.9	58.5	59	59.2	60	60.2	60.2	60.5	60.8	61	61.5
58	58	58	58	58	57.5	57.5	57.5	57.3	57.3	57.5	57.5	57.2	57.5	57.8	58	58.2	58.5	58.5	59	59
58	58	58	58	58	57.5	57.5	57.5	57.2	57.5	57.5	57.3	57.5	57.5	58	58.2	58.5	58.5	59	59	53
58	58	58	58	58	57.5	57.5	57.5	57.2	57.5	57.5	57.2	57.5	57.8	58	58.2	58.5	58.5	59	59	59.5

THE TEMPERATURE OF THE SOIL of the Experimental

THERMOMETER.	DEPTH IN SOIL.	TIME OF READING.	JULY. 1	2	3	4	5	6	7	8	9	10
No. 1.	1 inch	7 a.m	59	59	60	67.8	63	61	57.5	58	56	58
		2 p.m	80	83	83	84	63.5	75	75.5	70	79.5	82
		9 p.m	54.5	60	68.5	60	54	62	57.1	54	54.6	56
No. 2	3 inches	7 a.m	56.8	56	62.1	66.2	62	57.5	59	57	55	56
		2 p.m	76	81	82.5	81	65	74.5	75.8	70	77.5	79
		9 p.m	57	65.5	69.5	61	57	62.5	59.1	57	58	59
No. 3	6 inches	7 a.m	56	55	57	65.5	61	55.5	61.5	57.5	54.5	55
		2 p.m	71	72	77	73	68	70	71	68	69	71
		9 p.m	64	69.5	71	65	62	65.5	64.8	63	65	68
No. 4	9 inches	7 a.m	58.5	58	59	65.9	62.5	58	62.5	60	57.5	64
		2 p.m	67	70	71.5	70	67.5	66	66.5	65	65	65
		9 p.m	65.8	69	70.5	68	64	66	66.1	66	66	65.5
No. 5	12 inches	7 a.m	62.5	62	65.5	65.9	64	62	63.5	62.5	61	60
		2 p.m	63	64	65.5	66.5	64.5	62.5	63.8	62.8	61.8	61.5
		9 p.m	65.3	65.5	67.5	67	64.5	65	65.1	64.2	64.5	63
No. 6	24 inches	7 a.m	63.5	63	63	63.3	64	62.5	62.6	62.5	62.5	61
		2 p.m	63	63	62.5	83.5	63.5	62.5	62.5	62.5	62	61.8
		9 p.m	63	63	63	64	63.5	62.5	62.5	62.5	62	61.8
No.	36 inches	7 a.m	61.5	61.5	61	60.9	61	61	61	61	61	60.8
		2 p.m	61.5	61.5	61	61	61.3	61	61	61	61	60.8
		9 p.m	61	61.5	61	61	61.5	61	61	61	61	60.8
No. 8	48 inches	7 a.m	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5	59.5
		2 p.m	59.5	59.5	59.3	59.5	59.5	59.5	59.5	59.5	59.5	59.5
		9 p.m	59.1	59.5	59.3	59.5	59.5	59.5	59.5	59.5	59.5	59.5

LINES INDICATING THE DAILY VARIATIONS OF THE SOIL IN TEMPERATURE, JULY, 1884.



Field at Depths varying from 1 to 48 inches.

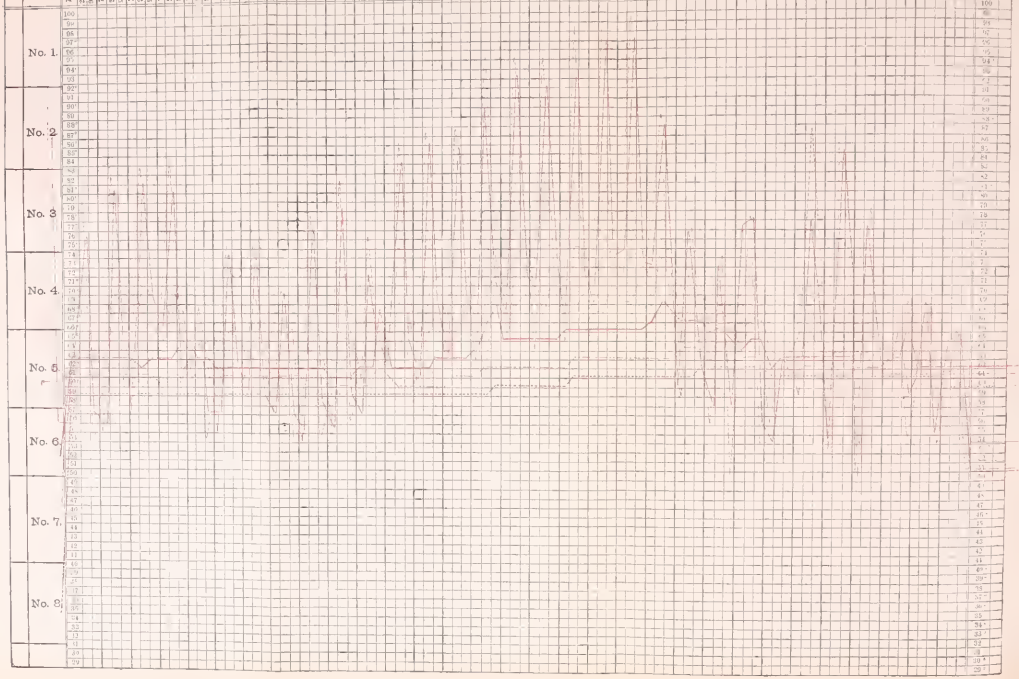
JULY.

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
60	62	64	64	71.5	72	73	71	73	77	77	59	56	69	54	66	53	52	63	61	60
76.5	86.5	87	88.5	95	95	95	98	99	99	89	77	74	78	64	86	86.5	79.5	67	69.5	66
63.5	63.5	67	67	69.5	69	70.5	70.5	72	72.5	71	69	50	54	63	70	71	61	55	54	52
57	62	61.5	63	67	68.5	70	67.5	69.5	74.5	73	60	58	77	54	62	54	51	63	61	65
72	84	86	86.5	90	93	92	94	98	98.5	88	77	73	78	63	78	85	77	66.5	69	65
65	65.5	69	69	71	72	73.5	72	73	73.5	69	62	58	56	62	71	72	61.5	59.5	55	51
59	61	60.5	63	63.5	65	64	65.5	67	70	69	63.5	60	70	56	59.5	53.5	50	63	61	61
66.5	75.5	77	76	75.5	82	82	82	84	85	74	72	69	72	62	69.5	74	70	65	68	65
67.5	70.5	73	73	74	76	76	76	75.3	76.5	71	70	65	61	62.5	65	70	65	67.5	57	54
61.5	64	62.5	64.8	65	66.5	71	67	68	70	69.5	66	65	66	59	61	57	53	63	61	61
62	69.5	70	70.5	70	74.5	75	75	76	77	76	69.5	66	67	61.5	66	67	65.5	64.5	68	63.5
67	70	72	72	73	75	75	75	74	75.5	74	70	66.8	67	62.5	64	66	65.5	69.3	57	51
62	63	63.5	65.5	66	67	70	68	68.5	69.5	70	68.5	62	64.5	64	62.5	61.5	62	63	62.5	61
62	64	65	65.7	61	68	68.5	68.5	68.5	69.5	71	67.5	65	67	63.5	63	62.5	63	64	63	61.5
67	67	68	68.5	70	70	71	71	71	72.5	73	70	66.5	67	63.5	62	63	65	60	63	61.5
62	62	62.5	63.5	64	65	65	66	66.5	66.5	67	67	66.5	64.5	62.8	63	63	62.8	63	62.5	62
62	62	62.5	63.7	67	65	65.5	66	66	66.5	69	67	66	65	63	63	63	62.8	63.5	62.5	62
68	62.5	63	63.5	69	65	65.8	66	66	66.8	68	67	65	65	63	63	63	62.8	66.3	62.5	62
60.5	61	60.5	60.8	61.2	62	62.5	62.5	63	63.2	63.5	64	64	63.5	62.8	62.5	62	61.8	61.8	61.5	61.2
60.5	60.5	60.5	61	62	62	62.5	63	63	63.2	63.5	64	64	63.5	63	62.5	62	61.8	61.8	61.5	61.2
62	60.5	60.8	61	62	62	62.5	63	63	63.5	63.5	64	64	63.5	63	62.5	62	61.8	61.9	61.5	61.2
59.5	59.5	59.5	59.5	59.5	60	60.5	60.5	61	61.2	61.5	61.8	62	62	61.5	61.5	61	61	61	61	60.8
59.5	59.5	59.5	59.5	59.8	60.2	60.5	61	61	61.2	61.5	61.8	62	62	61.5	61.5	61	61	61	61	60.8
59.5	59.5	59.5	59.5	60	60.2	60.5	61	61	61.3	61.8	62	62	62	61.5	61.5	61	61	61	61	60.8

THE TEMPERATURE OF THE SOIL of the Experimental

THERMOMETER.	DEPTH IN SOIL.	TIME OF READING.	AUGUST. 1	2	3	4	5	6	7	8	9	10
No. 1.	1 inch	7 a.m.	51	56.5	64	65.8	64.5	64.5	61	68	67	68
		2 p.m.	71	74	89	89.5	94	95	88	81	89	95
		9 p.m.	57.5	63	65	66	70	71	69	69	74	68
No. 2.	3 inches	7 a.m.	51	56.5	63.5	65	63.8	64.5	60	68	67.5	68
		2 p.m.	71	72	88	88	92	91	85	79	88	92
		9 p.m.	58	63.5	66	67	74	75	70	69	74	71.3
No. 3.	6 inches	7 a.m.	50.5	55.5	59	61	62.8	63.5	59	68	67	67.5
		2 p.m.	66.5	69	78	78	80.5	81	78	75.5	81	83
		9 p.m.	62	65	70	70	72	71	71	71	75.5	72
No. 4.	9 inches	7 a.m.	54.5	57	60	62.5	64.8	64.5	64	68	67.8	68.5
		2 p.m.	62.5	66	69.7	71	73	73	73.5	72	74.5	75.5
		9 p.m.	63	65	70	69	71	70	71.5	71.3	74.5	70.5
No. 5.	12 inches	7 a.m.	58.5	59.5	61.5	63.8	65.5	65.5	66	67.5	67.8	69
		2 p.m.	59.5	61	63	65	66	66	68	68	69	69.5
		9 p.m.	61.5	63.3	66.5	67	67	66	68.5	69.1	70.8	66.2
No. 6.	24 inches	7 a.m.	61.5	61	61.5	62.5	63.5	63.5	64.5	65	65.5	66.5
		2 p.m.	61	61	62	63	64	64	65	65	65.5	66.5
		9 p.m.	61	61.2	62	63	64	64	65	65	65.8	66
No. 7.	36 inches	7 a.m.	68.8	60.5	60.2	60.5	61	61	62	62.5	63	63
		2 p.m.	61	60.5	60.5	61	61.5	61.5	62	62.5	63	63
		9 p.m.	60.8	60.5	60.5	61	61.5	61.5	62	62.5	62	63
No. 8.	48 inches	7 a.m.	60	60	59.8	60	60	60	60.8	61	61	61.2
		2 p.m.	60.2	60	60	60	60.5	60.5	60.8	61	61.2	61.2
		9 p.m.	60	60	60	60	60.5	60.5	60.8	61	61	61.2

LINES INDICATING THE DAILY VARIATIONS OF THE SOIL IN TEMPERATURE, AUG., 1884.



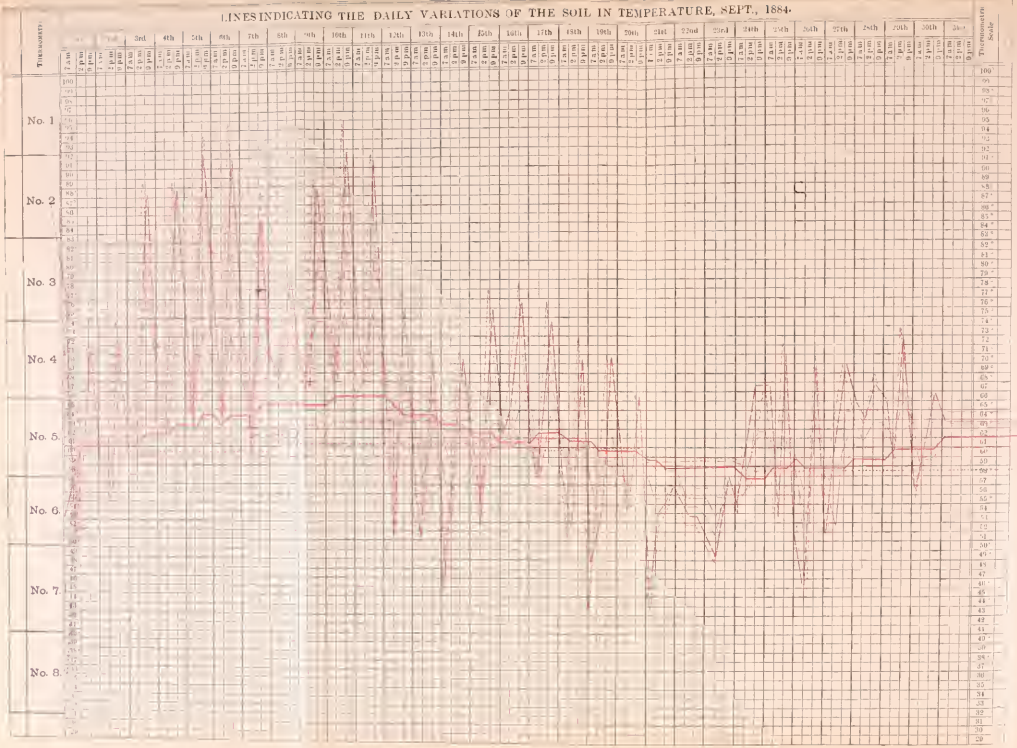
Field at Depths varying from 1 to 48 inches.

AUGUST.

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
68	52	51	52	55.2	46.5	58	57.5	55	54	52	52	48.5	61.5	53.5	46 5	62	61	59.5	59	....
92	77.5	70	71	77	78	76	72	70.5	66	54	52.5	57.5	61.5	71	70	69.5	68	73	66.5	...
65	53.5	45	59	62.3	61	57.5	43.5	54	43	56	50	53	68	50	51	65	64	55	63	....
68	51.5	51	53	54	65	57	52	54	54	53	53	49	60	53.5	46.5	61	63	59	59	....
91	75.5	72	70	75	76	74	70	70	66	54	53	57	67	70	69	69	69.5	72	66.5	....
66	56	49	61	62	61.3	58.3	48	59	45	56.1	50.5	54	67.5	51.5	51.5	65	65	56.5	63.5	....
67.8	54	52.5	52	52.5	62	57	55	54	54.5	53	54	51.5	57	55	48	52.5	63	60	58	...
81	68.5	66.8	67	68	67	68	63	68	61.5	54	54.5	56	65	61	64	64	65.5	68	64.5	....
73	63	58.6	62	63	44.5	62	57	60	53.5	57.5	53.5	54.5	66	57	56	64	64	60	64	....
68	58	56.5	59	56	61.5	58.8	58	59	56	55	55.5	53	57	57.5	52	57.8	61	61	58.5	..
75	65.1	63.5	63	63.5	65	64	59	59	59.5	55	55	55	62	62	59.8	61.5	63.5	65	63	..
71	65	62	61	63.5	65	63.5	60	59.5	57	58.5	55	55	62	60	57.5	63	63	63.5	63	..
68	63.5	61	62	59.8	61.5	61	60.5	60	58	58	57	55	56.5	58.5	56.5	57.8	60	61	59.5	.
70	63	61	62	60	62	61	61	57	58.5	58	56.5	55	58	59	57	58.5	61	62	60.2	..
71	64.8	63	61	62.2	63.5	63	61	60.5	59	58	56	56	58	60	59	61	61	63.5	62	...
66.5	65.8	64	63	62	61.8	62	61.5	60	60	59	58.8	58	57.5	58.5	58.8	58.5	59	60	60.5	.
66.5	64.5	64	63	62	61.5	62	61.5	60.5	60	58.5	58.5	58	57.5	58.5	58.8	58.5	59.5	60	60.5	..
66.5	64	63	62	61.5	61.8	62	61	60.5	59.5	58.2	58.5	58	57.5	59.5	58.8	59	59.5	60	61	...
63.5	63.5	63	62	61.5	61.3	61	61	60.5	60	59.5	59	59	58.5	58	58.5	58.5	58.5	58.5	59	..
63.5	63.3	63	62	61.5	61.3	61	61	60.5	60	59.5	59	59	58.5	58	58.5	58.5	58.5	58.5	59	.
63.3	63	62.5	62	61.5	61.3	61	61	60.5	60	59.5	59	59	58.5	58	58.5	58.5	58.5	59	60	..
61.5	61.8	61	61	61	61	60.5	60.2	60	59.1	59.1	59	59	58.8	58.5	58.5	58.5	58.5	58.5	58.5	..
61.5	62	61.8	61	61	61	60.6	60.5	60.2	60	59.1	59	59	58.5	58	58.5	58.5	58.5	58.5	58.2	.
61.5	61.5	61.5	61	61	61	60.1	60	60.2	59.5	59.1	59	59	59	58.8	58.5	68.5	58.5	58.5	58.5	....

THE TEMPERATURE OF THE SOIL of the Experimental

THERMOMETER.	DEPTH IN SOIL.	TIME OF READING.	SEPTEMBER. 1	2	3	4	5	6	7	8	9	10
No. 1	1 inch	7 a.m.	62	51	51	64.5	63	60.5	48	56	31	37
		2 p.m	68	52	74	75.5	78	66.5	68	52	72	64
		9 p.m.	54	49	66	65	58	51.5	51.5	38.5	39.5	45
No. 2	3 inches	7 a.m.	62	52	52	64	62	59.5	48	56	32.5	37
		2 p.m.	63	51	73	67.5	77	66	67.8	53.5	74	63
		9 p.m.	55	49	65	65.5	59	53.5	52	40.5	41	46.5
No. 3	6 inches	7 a.m.	60	54	53	61.5	61	59	50	56.5	40	41
		2 p.m.	62.5	53	62.5	69.5	69	64.5	63.9	57	68	58
		9 p.m.	58	51	64	65.5	65	57.5	56.3	48	48	51.5
No. 4	9 inches	7 a.m.	60	55.8	54	60.5	60	59.5	53	57	45	45.5
		2 p.m.	62	51	59	66	65	63	60	58	60	57
		9 p.m.	60	52	63	66	66	59.5	58.3	52.5	57.5	53.5
No. 5	12 inches	7 a.m.	60.5	58	56	69.8	60	60	57.5	58	56	51
		2 p.m.	61	57	56.5	61.5	60	60.5	57.5	58	57	52
		9 p.m.	61	58	60	63	60	61	59	56.5	54	54
No. 6	24 inches	7 a.m.	60.5	60	58.5	58.8	60	60	60	59	58	56.5
		2 p.m.	60	61	58.5	59	60	60	59	59	59	55.8
		9 p.m.	60	61	58.5	60	60	60	59	58.5	56.8	55.5
No. 7	36 inches	7 a.m.	59	59.5	59	58.5	58	58.8	59	59	58.5	58
		2 p.m.	59	59.5	59	58.5	58	58.8	58.8	59	58.5	57.3
		9 p.m.	59	59.5	59	58	58.5	59	58.5	58.5	58	57
No. 8	48 inches	7 a.m.	58.5	58.5	58.5	58.5	58	58.2	58	58	58	58
		2 p.m.	58.5	58.5	58.5	58.5	58	58.2	58	58.5	58	57.5
		9 p.m.	58.5	58.5	58.5	58.5	58	58	58	58.5	58	57.5


LINES INDICATING THE DAILY VARIATIONS OF THE SOIL IN TEMPERATURE, SEPT., 1884.
Thermometer
No. 1
No. 2
No. 3
No. 4
No. 5.
No. 6.
No. 7
No. 8.
Thermometer Scale

Field at Depths varying from 1 to 48 inches.

SEPTEMBER.

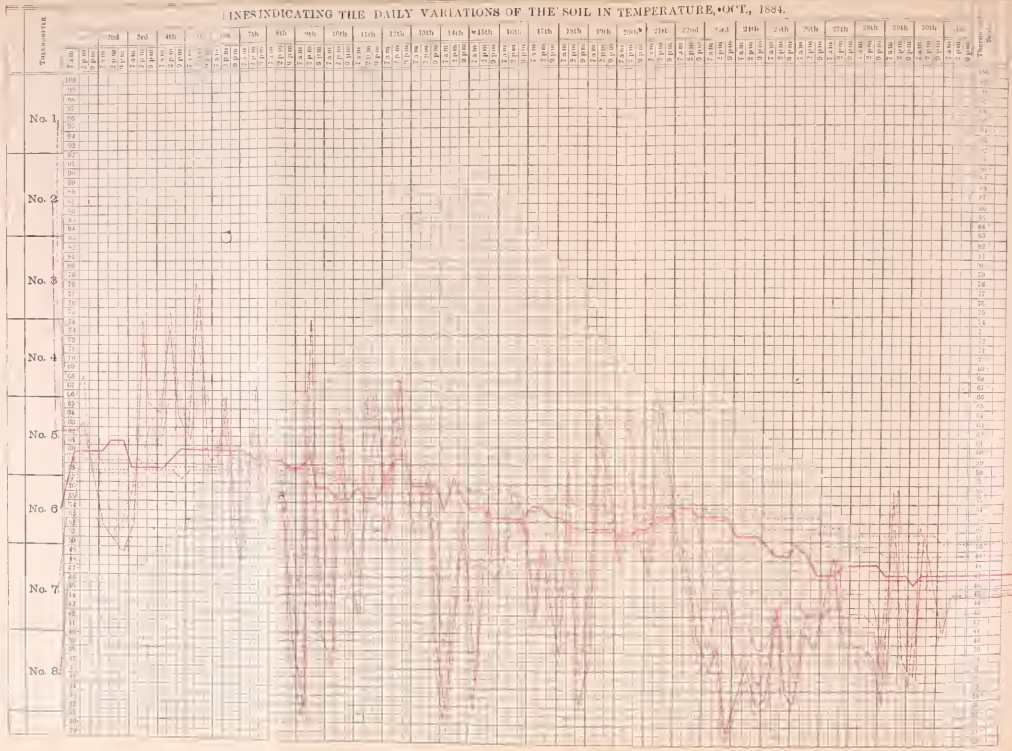
11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
43	50	51	30	32.5	48.5	41	37.5	40	48.5	48	49.5	35	33	33	32	45	38	32	35.5	40.5
68	69	59.5	40.5	55.5	57	50.5	41.5	64	68	67	47	39	36	43	42	49	38	55	52	45
66	52	38	54	45.5	55	39	33.5	56	50.5	60	38.8	29	32.5	33	39	38	38	37.5	45.5	43
42	51	51	32.5	35	48.5	42	38	38	47.8	47	51	36	33.5	34	33	45	39	33	36	41
66	68	58	39	55	56.5	50	58.5	63	65	66	48	39	37	43.5	41	49	39	56	51	45
66	53	40	52.5	45	54.5	41	33·5	57	51	59	40.5	30	33	34	39	39	38.5	38.5	46	45
44	55.5	52.5	34	42	48.5	45.5	41	41	47.3	47.5	54	39	37.5	37.5	36	43	41	35	38	42
58	67	57	41	52	54	50.5	50.8	61	58.3	59	45	44	39	43	42	46.5	41	54	48.5	45
62	54	47.5	51.5	48	53.5	46	35.5	59	55.5	57.5	46	44	35	39.8	43	41	41	41	47	46
47.5	57	54.5	39	48.8	49	48	44.5	42	48	48	55	44	41	39.5	37	43	43	37	39.5	43.
56	64	56.5	45	48.8	52.2	50.2	49.5	59	54	55.5	49	46	42	42.5	43	44.8	43	56	45	44.
59	60	51.5	50.5	49	53	48.3	42.5	50	54	56	49.2	47	39	42	43	43	42.5	42	46	45
52	58	56	45	48.8	50.5	51.5	48.8	46	49.8	50	55	49	45	44	44	43.5	45.5	39	42.5	45
52.5	60	55.5	51	48.8	51.5	51	48	48	50.8	52	55	48	45	43.4	43	44.5	45	45	43.5	45
53	60	55	51	50	52.5	51	46	49	52.8	54	52.3	49	45	44	43	45.5	44.5	43	44	45
56	57	56.8	54	54	53.5	54	53	52	51.8	52.8	54	53	51	50	50	47.8	48	47	46.5	47
55.5	59	56.5	57	54	53.5	54	52.5	52	51.8	53	54	53	51	49	49	47.5	48	47	47	47
55.5	59	56.3	55.5	53.5	53.5	53	52	52	52	53	53.8	53	51	49	47	48	48	47	47	47
56.8	56.5	56.5	55.5	56.8	55.5	54.8	54.5	54	53	53.2	53.5	53.5	53	52	52	50.5	50	49.5	49	49.
56.8	56.5	56.2	56.5	56.8	55	54.5	55	54	53.1	53.5	53.5	53.5	53	52	52	50	50	49.5	49	49
56.8	56.5	56.2	56.5	55.5	54.8	54.5	54	54	53.1	53	53.5	53.5	53	52	52	50	50	49.5	49	49
57.2	57	57	56.5	56.3	56	55.8	55	55	54.5	54	54	54	54	53.5	53.5	52	51.5	51.5	51	50.5
57.2	57	57	56.5	56.3	56	55	55	55	54.3	54	54	54	54	53.5	53	52	51.5	51.5	51	50.5
57.2	57	56.1	56.5	56	55.8	55	55	55	54	54	54	54	54	53.5	53	52	51.5	51.5	51	50.5

THE TEMPERATURE OF THE SOIL of the Experimental

THERMOMETER.	DEPTH IN SOIL.	TIME OF READING.	OCTOBER.									
			1	2	3	4	5	6	7	8	9	10
No. 1	1 inch	7 a.m.	57	54	36.5	55	56	52	49	42.8	47.5	44.5
		2 p.m.	49	46.5	63.5	69	70	60.5	58	48.8	58	60
		9 p.m.	58.5	37.5	47	57	56	55.2	44	47	47	46.8
No. 2	3 inches	7 a.m.	56	54	37	52	51.7	52	50.8	44.8	47	45
		2 p.m.	50	49	57.5	69	68.5	58.5	49	49	56.5	56
		9 p.m.	57	42.5	50	58	57	55.5	46	48	50	49
No. 3	6 inches	7 a.m.	55	52.5	41	49	48.5	51.5	51	45.8	47	45.2
		2 p.m.	51	49.5	51	57	56.5	54.5	49.5	47.8	52	52
		9 p.m.	54	46	51	57	56.5	54.5	47.8	48.5	50	50
No. 4	9 inches	7 a.m.	56	50	44.5	48	46.7	50.5	50.8	47	47	47
		2 p.m.	49	48	45.5	49	49.5	50.8	49.5	47	48	48
		9 p.m.	50	47.5	48	51	52	52	48.8	48	48.5	49
No. 5	12 inches	7 a.m.	50	48	45.5	45	46	49	47	47.5	46.5	47
		2 p.m.	48	45	44.5	46	46.8	49	47	47	47	47
		9 p.m.	47.5	47	46	46	49	50	49	47.5	48	48
No. 6	24 inches	7 a.m.	45	45	45	44	44.5	46	47	46.8	46	46
		2 p.m.	45	45	45	44	44.8	46	47	46.5	46	46.2
		9 p.m.	45	45	44.5	44.5	45	46.5	47	47	46	46
No. 7	36 inches	7 a.m.	42	42.5	42.5	42.7	42.8	43	44	44.5	44.5	44.5
		2 p.m.	42.5	42.5	42.7	42.8	43	43.2	44	44.5	45	45.5
		9 p.m.	43	42.5	42.7	42.8	43	43.2	44	45	45	44.5
No. 8	48 inches	7 a.m.	41	41	41	41.5	41.5	42	42.2	42.8	43	43.5
		2 p.m.	41	41	41	41.5	41.8	42	42.8	43	43.5	43.5
		9 p.m.	41	41	41.5	41.5	42	42	42.8	43	43.5	43.5

31
51
75.5
56
49.5
72.5
58
48.5
64.5
60.8
48.5
57.5
59.1
49.8
51.5
55
50.5
50.5
50.5
49.5
49.5
49.5
48
48
48

LINES INDICATING THE DAILY VARIATIONS OF THE SOIL IN TEMPERATURE, OCT., 1884.



Field at Depths varying from 1 to 48 inches.

OCTOBER.

11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
41	43.5	45.5	43	28.5	44.5	45.5	52	51.5	49.5	54	57.6	66.5	59	62.8	59	57.2	41.5	44.5	40.5	51
61	65.1	47.5	53.5	52.5	55.5	63.8	72	71	53.8	75.5	58.7	64.2	63	78.3	70	65	61.3	60.2	51.7	75.5
48	47	44	43.5	42	41	48.8	57	56.5	48.5	56	52	62	61.5	56.5	49	48.5	39.5	39	45.5	56
40	45.1	46.2	43.5	39.5	42.5	43	49	50.5	51	50.5	56.3	63	58	58.8	57	55	41.2	42	41.5	49.5
59	62	48.5	53	52	56	62.8	69	70	58.5	73.8	56.5	64	62.5	77.3	71	67	64	62	51.5	72.5
56	51	45	46	43	41.8	47.5	46	56.8	49	57	55	63	61	58	62	50.8	42	42	46.8	58
41	42	46.5	44	41.5	40.5	40.5	40.3	49.3	52.5	46	52.5	57	57.5	53.2	54	53.5	44.5	42.2	44	48.5
55	55.5	48	50.2	49	51.5	57.5	59	52	51	65	57	64	60.7	72	67	66.5	60.2	57.8	57.5	64.5
52	53	46.5	49	47	46.8	53.2	53	56	52	59	52	61	59	63.2	59	58	51	50	50	60.8
42	45	47.8	45.6	44.5	42	42.5	43	49.3	52	47	51.7	54	57.3	53	59	57	49	45	47	48.5
47	48.5	47.5	47	46	46.8	48.8	49	51	51	55.5	54.2	62.5	57.8	63.5	62	61.2	55.8	53.2	50.5	57.5
49	50.8	47	4.85	47	47.5	52	49	54	52	57.5	51	61	54	63	60	59.5	54.6	53	51.3	59.1
44	46.2	47.8	46.2	46	44	44.5	50	49.5	51	48.5	52	52.5	56.2	54.5	58	56	53.3	49.5	50	49.8
45	46.2	47.2	46	45.8	45	45.8	57	58	50.5	50.5	52	58	55.8	56.2	59	56.5	53	50.8	50	51.5
47	48.5	47	47	44	46.8	49	49	51	51	54	51	57	54	59.5	57	58	55	53	51	55
45	46.2	46.5	46.5	46	45	45.5	46	47.5	48	48.3	49.5	50	51.8	52.8	55	53.5	53.5	52.3	51	50.5
46	46	46.7	46.2	46	45.5	45.8	46	49	48	48.5	49.5	51	52	52.5	56	53.5	53	51.5	50.7	50.5
46	46	46.5	46	46	45.5	45.8	46.5	47.8	48.5	50	51.8	52.8	53	51	53	53.7	53	51.5	51.5	50.5
44.5	44.5	44.5	45	44.8	44.8	44.5	45	45	455.	46	46.5	47	47.8	49.2	49.5	49.7	50	50	49.7	49.5
44.5	44.8	44.8	45	44.8	44.8	44.8	45	45	458.	46.5	46.8	47.8	48	49.5	49.6	50	50.5	50	49.7	49.5
44.5	44.8	45	45	44.8	44.8	44.8	45	45.2	45	46.5	47	47.8	49.2	49.5	49.7	50	50	50	49.5	49.5
43.5	43.5	43.8	43.8	44	44	44	44	44	44.5	44.5	45	45.5	46	47	47.2	47.5	47.7	48	48	48
43.5	43.8	43.8	44	44	44	44	44	44	34.5	45	45	46	46	47	47.5	47.5	48	48	48	48
43.5	43.8	43.8	44	44	44	44	44	44	44.5	45	45.5	46	47	47.2	47.5	48	48	48	48	48

II.—METEOROLOGY.

Report of Observations taken at the Ontario Agricultural College During 1884.

During the past year some additions have been made to the instruments of the Meteorological Department of our College.

Observations are regularly taken at the hours of 7 a.m., 2. p.m., and 9 p.m. daily, and recorded in a book printed for the purpose. The instruments in use are as follows:—

Anemometer—Recording the direction of the wind and indicating the number of miles travelled.

Barometer—Showing the atmospheric pressure at the time of observation.

Maximum thermometer—Indicating the highest temperature between times of observation.

Minimum thermometer—Indicating the lowest temperature between times of observation.

Hygrometer—With *dry* and *wet* bulb thermometers, for the purpose of showing the condition of the atmosphere with reference to moisture.

Pluviameter—Used in measuring the rainfall.

Thermometer—For observing ordinary temperature.

Besides taking observations from these instruments, the cloudiness of the sky is observed, and general remarks on the weather for the day are recorded in the daily register. Each morning a form, as seen below, is filled out and given for publication to the daily papers in Guelph. At the close of each month a summary of the month's observations is also given for publication. From these monthly summaries the condensed statement of the year's meteorology is made out.

In my course of lectures on Meteorology, the practical method of teaching is adopted, "The instruments named above are fully described, and the students taught not only how to read them, but also to epitomize the observations taken in such a way as to make them interesting and instructive."

At examinations the same practical method is used.

Form of Record Published Daily in the Guelph Papers.

WEATHER RECORD

Ontario Agricultural College.

.....1883.

Normal height of barometer at Guelph (1,100 feet above sea level and 740 above [sea level and 740 above] Lake Ontario), 28.86 inches. Average temperature for.....

Barometer ..... { Height.....inches / Change.....

Hygrometer.....Moisture.....

Anemometer .... { Direction of wind..... / Miles travelled during previous twenty-four hours.....

Minimum temperature during preceding twenty-four hours.....

Maximum " " " " .....

Pluviameter—Rainfall.....inches.

FORM OF MONTHLY SUMMARY.

Meteorology.

A summary of the meteorological observations taken at Ontario Agricultural College during the month of.....

Barometer—
Highest barometer.
Lowest " "
Highest mean barometer
Lowest " "
Monthly " "
Monthly range.

Thermometer—
Highest thermometer.
Lowest "
Highest mean thermometer.
Lowest " "
Monthly " "
Monthly range.

Hygrometer—
Day of greatest humidity.
Day of least "
Mean "

Pluviameter—
Days rain fell.
Greatest rainfall.
Days snow fell.
Greatest snowfall.
Total precipitation.

Anemometer—
Direction of wind.
Greatest number of miles travelled in twenty-four hours.
" velocity per hour.
Mean velocity per month.

Clouds—
Cloudy days.
Clear "
Mean cloudiness for the month.

The following is a summary of the observation taken during the year 1884.

JANUARY.

Barometer.

Highest barometer, 26th, 9 p.m.	29.466	inches.
Lowest barometer, 9th, 2 p.m.	28.132	"
Highest mean barometer, 26th	29.384	"
Lowest mean barometer, 2nd	28.174	"
Monthly mean barometer	28.775	"
Monthly range	1.334	"

Thermometer

Highest temperature, 30th, 31st	41°
Lowest temperature 25th	–35°
Highest mean temperature, 30th	36.8°
Lowest mean temperature 25th	–9.6°
Monthly mean temperature	13.07°
Monthly range	76°

Pluviameter.

Days rain fell, 1	13 inches.
Greatest rainfall, 30th	13 "
Days snow fell, 11	35.5 "
Greatest snowfall, 8th, 9th	18.0 "
Total precipitation	3.68 "

Anemometer.

Direction of wind :

N.	E.	W.	S.	N. E.	N. W.	S. E.	S. W.
6	3	7	4	4	8	6	8

Greatest number of miles travelled in 24 hours, 3rd	1,038 miles.
Greatest velocity per hour, 3rd	68 "
Mean velocity for the month	16.6 "

Clouds.

Cloudy days	24
Clear days	7
Mean cloudiness for the month	6.5

Remarks.

This month was characterized by cold and by frequent snow storms.

On the morning of the 1st, the pressure was high and the weather cold and damp; by the evening an area of atmospheric depression moving northward reached Guelph, a moderate gale blowing from the east and north east with snow towards midnight. It snowed all day on the 2nd; during the night, the wind shifted to the north-west, bringing colder weather. The strong winds which occurred in this district on the 3rd, were accompanied by a low temperature that continued until the 6th. A snow storm with strong winds and gales from the east occurred on the 8th; on the 10th and 12th it was milder, snow falling and the wind blowing from the S. W. A high pressure passed over the district on the 15th, the temperature falling considerably below zero. This pressure soon decreased and during the three following days, indications of a thaw were visible.

The weather was clear and cold during the period of high pressure which spread over the continent on the 23rd. The extreme cold of the 24th, reached 35° below zero on the morning of the 25th, being 19° lower than the coldest day of last year. The depression of the 28th brought milder weather and local falls of snow. A thaw commenced on the 29th, and continued through the next day; it was followed on the 31st by renewed cold and snow.

FEBRUARY.

Barometer.

Highest barometer, 10th, 9 p.m.	29.290 inches.
Lowest barometer, 19th, 9 p.m	28.184 "
Highest mean barometer, 15th	29.222 "
Lowest mean barometer, 28th	28.323 "
Monthly mean barometer	28.789 "
Monthly range	1.106 "

Thermometer.

Highest temperature, 13th	47.°
Lowest temperature, 29th	–10.5°
Highest mean temperature, 19th	38.5°
Lowest mean temperature, 29th	–3.5°
Monthly mean temperature	20.7°
Monthly range	57.5°

Pluviameter.

Days rain fell, 3	1.60 inches.
Greatest rainfall, 19th	0.75 "
Days snow fell, 7	8.0 "
Greatest snowfall, 22nd	2.0 "
Total precipitation	2.4 "

Anemometer.

Direction of the wind :

N.	E.	W.	S.	N. E.	N. W.	S. E.	S. W.
5	4	6	9	4	4	9	7

Greatest number of miles travelled in 24 hours, 20th	901 miles.
Greatest velocity per hour, 20th, 7 a.m	45.6 "
Mean velocity for the month	14.3 "

Clouds.

Cloudy days	23
Clear days	4
Mean cloudiness for the month	6.4

Remarks.

The weather during the 1st and 2nd of the month, was clear and cold. On the 3rd and 4th, the atmospheric pressure was high, local flurries of snow occurring at times. On the 5th, a thaw followed, a cloudiness continuing for a few days accompanied by higher temperature.

The depression which moved over the Lakes eastward on the 9th, produced a light fall of snow at Guelph. Another depression with rain, occurred on the 12th; after the 12th, the weather remained fine for a few days.

The area of depression which moved slowly from the Pacific Coast on the 17th, passed Guelph on the night of the 19th, and produced furious westerly gales.

On the 21st and 22nd, warm, winds blew from the South-west with snow. Two days of clear, cold weather followed.

The depression which set in over Ontario on the 26th, produced cold wet weather at Guelph.

On the 28th and 29th, cold winds blew from the North and North-west, producing the lowest temperature of the month.

MARCH.

Barometer.

Highest barometer, 4th, 2 p.m	29.402 inches.
Lowest barometer, 26th, 7 a.m	28.232 "
Highest mean barometer, 18th	29.135 "
Lowest mean barometer, 26th	28.303 "
Monthly mean barometer	28.808 "
Monthly range	1.170 "

Thermometer.

Highest temperature, 25th, 27th	50°
Lowest temperature, 1st	–20°
Highest mean temperature, 27th	40°
Lowest mean temperature, 1st	–3°
Monthly mean temperature	26.2
Monthly range	70°

Pluviometer.

Days rain fell, 3	0.77	inches.
Greatest rainfall, 12th	0.3	"
Days snow fell, 1		
Greatest snowfall, 7th	4	"
Total precipitation	1.17	"

Anemometer.

Direction of the wind:

N.	E.	S.	W.	N. E.	N. W.	S. E.	S. W.
7	17	10	15	9	9	5	11

Greatest number of miles travelled in 24 hours, 12th	826	miles.
Greatest velocity per hour	42.5	"
Mean velocity for the month	12.2	"

Clouds.

Cloudy days	13
Clear days	18
Mean cloudiness for the month	4.3

Remarks.

The weather from the 1st to the 6th was clear and cold temperature reaching 20 degrees below zero, and wind blowing from the North and North-west. On the 5th, the wind changed to the S. W.; by the evening of the 6th, the wind changed to the N. E., snow falling during the night. On the 8th, a strong wind blew from the East, producing huge snow drifts.

A light fall of snow occurred on the 9th, followed by an increase of temperature. A steady rain occurred on the 11th, wind blowing from the East.

With the exception of one or two days towards the end of the month, the weather of the rest of the month, was mild. On the 17th and 19th rain fell, the 19th being cold.

The temperature increased from the 21st to the 28th, and much snow melted. The temperature became lower on the 29th and 30th.

APRIL.

Barometer.

Highest barometer, 21st, 2 p.m.	29.176	inches.
Lowest barometer, 2nd, 7 a.m	28.072	"
Highest mean barometer, 21st	29.154	"
Lowest mean barometer, 2nd	28.192	"
Monthly mean barometer	28.726	"
Monthly range	1.104	"

Thermometer.

Highest temperature, 27th	71.5°
Lowest temperature, 3rd	21°
Highest mean temperature, 26th	57°
Lowest mean temperature, 5th	26.5°
Monthly mean temperature	39.3°
Monthly range	50.5°

Pluviameter.

Days rain fell, 2.	
Greatest rainfall, 15th	0.23 inches.
Days snow fell, 3	1.5 "
Greatest snowfall, 1st, 2nd, 8th	
Total precipitation	0.4 "

Anemometer.

Direction of the wind:

N.	E.	S.	W.	N. E.	N. W.	S. E.	S. W.
7	16	6	15	14	8	7	9

Greatest number of miles travelled in 24 hours, 28th	700 miles.
Greatest velocity per hour	43 "
Mean velocity for the month	13.8 "

Clouds.

Cloudy days	15
Clear days	15
Mean cloudiness for the month	4

Remarks.

The weather during the first week of April was generally cold and cloudy. On the 3rd and 4th, the low pressure from the Western States moving eastward, gave us strong westerly gales and the lowest pressure of the month. Snow occurred during the time.

The weather became finer after the 5th, and continued so until the 15th. On the 15th, the atmospheric pressure rapidly decreased with rain from the East, the rain continuing until the afternoon of the 16th. Cloudiness with a steady average temperature prevailed from the 16th to the 21st, the atmospheric pressure gradually increasing and continuing high to the end of the month.

The early growth of fall and spring crops was greatly checked by the low temperature of the month.

MAY.

Barometer.

Highest barometer, 3rd, 2 p.m	29.064 inches.
Lowest barometer, 2nd, 7 a.m	28.344 "
Highest mean barometer, 3rd	29.014 "
Lowest mean barometer, 19th	28.484 "
Monthly mean barometer	28.746 "
Monthly range	0.720 "

Thermometer.

Highest temperature, 23rd	83°
Lowest temperature, 29th	29°

Highest mean temperature, 23rd	69.8°
Lowest mean temperature, 28th	40°
Monthly mean temperature	52.0°
Monthly range	54°

Pluviameter.

Days rain fell, 7	
Greatest rainfall, 19th	1.26 inches.
Total precipitation	2.504 "

Anemometer.

Direction of the wind :—

N.	E.	S.	W.	N. E.	N. W.	S. E.	S. W.
7	20	8	20	5	5	10	12

Greatest number of miles travelled in 24 hours, 2nd	775 miles.
Greatest velocity per hour	44 "
Mean velocity for the month	14.7 "

Clouds.

Cloudy days	19
Clear days	12
Mean cloudiness for the month	4.7

Remarks.

The mean atmospheric pressure was low at the beginning of the month. The gales of the 2nd and 14th were strong, those of the 2nd veering from S. W. to W. and N. W.

The depression which occurred on the Upper Lakes on the 15th, gave us numerous showers on that day.

With an area of high pressure over the Lake Region towards the end of the month, sharp frosts occurred.

The mean temperature was below the average, the rainfall was considerably above the average for May.

JUNE.

Barometer.

Highest barometer, 14th, 2 p.m.	29.306 inches
Lowest barometer, 9th, 7 a.m	28.616 "
Highest mean barometer, 14th	29.270 "
Lowest mean barometer, 9th	28.636 "
Monthly mean barometer	28.934 "
Monthly range	0.690 "

Thermometer.

Highest temperature, 20th	89°
Lowest temperature, 16th, 27th	45°
Highest mean temperature, 20th, 23rd	75°
Lowest mean temperature, 10th	52.6°
Monthly mean temperature	67.7°
Monthly range	44°

Pluviameter.

Days rain fell, 8	
Greatest rainfall, 21st	0.632 inches.
Total precipitation	2.072 "

Anemometer.

Direction of the wind :—

N.	E.	S.	W.	N. E.	N. W.	S. E.	S. W.
6	18	7	15	7	3	4	15

Greatest number of miles travelled in 24 hours, 13th ..... 403 miles.
Greatest velocity per hour ..... 21 "
Mean velocity for the month ..... 8.8 "

Clouds.

Cloudy days 8
Clear days 22
Mean cloudiness for the month 3.5

Remarks.

The weather for the first week was warm and clear. On the 9th and 10th it became colder. A few cloudy days followed. The temperature again fell on the 13th and 14th; it shortly rose again and remained dry and warm until the 21st.

On the 24th and 25th, there was rain, the rain of the 24th being warm, and accompanied by heavy lightning and thunder, that of the 25th being cold.

The weather for the remainder of the month was fine and warm. The average atmospheric pressure was high, the highest being reached during the fine weather of the last week.

JULY.

Barometer.

Highest barometer, 3rd, 2 p.m. ..... 28.934 inches.
Lowest barometer, 31st, 7 a.m ..... 28.480 "
Highest mean barometer, 8th ..... 28.902 "
Lowest mean barometer, 3rd ..... 28.508 "
Monthly mean barometer ..... 28.751 "
Monthly range ..... 0.454 "

Thermometer.

Highest temperature, 1st ..... 88°
Lowest temperature, 15th ..... 41°
Highest mean temperature, 1st ..... 76.6°
Lowest mean temperature, 14th ..... 54°
Monthly mean temperature ..... 62.7°
Monthly range ..... 47°

Pluviameter.

Days rain fell, 7 .....
Greatest rainfall, 31st ..... 0.719 inches.
Total precipitation ..... 1.861 "

Anemometer.

Direction of the wind :—

N.	E.	S.	W.	N. E.	N. W.	S. E.	S. W.
6	6	5	21	0	29	4	13

Greatest number of miles travelled in 24 hours, 7th ..... 668 miles.
Greatest velocity per hour ..... 44 "
Mean velocity for the month ..... 11.7 "

Clouds.

Cloudy days	10
Clear days	18
Mean cloudiness for the month	4.5

Remarks.

The depression of the 2nd in the North-West Territory, reached Ontario on the 4th, producing rain on the 4th and 5th. A similar cause gave us rain on the 12th. The small depression on the 18th, gave us a small shower, the one of the 30th and 31st, a showery close to the month.

AUGUST.

Barometer.

Highest barometer, 9th, 2 p.m	29.184 inches.
Lowest barometer, 29th, 7 a.m	28.444 "
Highest mean barometer, 9th	29.158 "
Lowest mean barometer, 29th	28.490 "
Monthly mean barometer	28.767 "
Monthly range	0.740 "

Thermometer.

Highest temperature, 18th, 20th	93°
Lowest temperature, 29th	39°
Highest mean temperature, 20th	78.6°
Lowest mean temperature, 5th	57.5°
Monthly mean temperature	65.°071
Monthly range	54°

Pluviameter.

Days rain fell, 10	
Greatest rainfall, 29th	0.764 inches.
Total precipitation	1.877 "

Anemometer.

Direction of the wind :—

N.	E.	W.	S.	N. E.	N. W.	S. E.	S. W.
8	4	10	3	2	20	15	27

Greatest number of miles travelled in 24 hours, 23rd	420 miles.
Greatest velocity per hour, 23rd, p.m	27.714 "
Mean velocity for month	9.588 "

Clouds.

Cloudy days	17
Clear days	10
Mean cloudiness for the month	4.1

Remarks.

The weather during the first two weeks of this month, was favourable for farm work, being of an even temperature, not too cool and not too hot. This month has made itself particularly noticeable, by the hot weather which prevailed from the 13th till the 22nd, the mercury in one case reaching 93.° in the shade, a temperature higher than any temperature of last year.

In comparing the rainfall of this season, with the same month of last year, we find that last year there were only two days on which rain fell, this year rain fell on ten. The total precipitation last year was 0.2 inches.

The rain which fell this month was so counteracted by the intense heat, that the growing crops derived little good from it, and in some districts the appearance of drought was very noticeable.

Although the temperature for this month was high, it was by no means unsteady, the heat being of a uniform character, accompanied by cool clear nights. The mean temperature was from 1 to $2\frac{1}{2}$ degrees below the average for Ontario.

One peculiarity of this month was the absence of thunder and lightning in this district.

The prevailing wind of this month came from the south-west and north-west, some of the hottest weather occurring while it came from these quarters.

There was a light frost in some places on the 7th; from the 24th to 27th, destructive frosts were reported in many places.

The low areas of pressure came this month from the extreme north-west. The low depression of the 28th produced rain in western Ontario.

The barometric pressure was pretty steady during the month.

September.

Barometer.

Highest barometer, 13th, 9 p.m.	29.312 inches.
Lowest barometer, 28th, 9 p.m	28.514 "
Highest mean barometer, 13th	29.288 "
Lowest mean barometer, 17th	28.570 "
Monthly mean barometer	28.911 "
Monthly range	0.798 "

Thermometer.

Highest temperature, 10th, 7th	90°
Lowest temperature, 20th	28.5°
Highest mean temperature, 10th	75.3°
Lowest mean temperature, 18th	49°
Monthly mean temperature	63.°585
Monthly range	61.5°

Pluviameter.

Days rain fell, 12	
Greatest rainfall, 24th	.620 inches
Total precipitation	2.106 "

Anemometer.

Direction of the wind:—

N.	E.	W.	S.	N. E.	N. W	S. E.	S. W.
8	4	10	3	2	20	15	27

Greatest number of miles travelled in 24 hours, 24th	616 miles.
Greatest velocity per hour, 27th, 2 p.m	40 "
Mean velocity for month	11.854 "

Clouds.

Cloudy days	17
Clear days	11
Mean cloudiness for the month	5.

Remarks.

The principal feature of this month was the intense heat which prevailed during the first part of it. During the first two weeks the temperature varied very little, the weather being hot and sultry accompanied by cool clear nights; towards the end of the month it was more uneven.

Considerable rain fell during the latter part of the month; from the 14th to the 18th, severe frost was general, causing considerable damage.

Complaints were heard in Western Ontario during the early part of the month, about the want of rain, pastures being burnt up.

The mean temperature was above the normal, from 2 to 4° in Ontario.

Rain fell on twelve days, the total precipitation being 2.106 inches, during same month last year, rain fell on only six days and yet the total precipitation was almost as great.

The weather during the latter part of the month was favourable to fall wheat seeding.

The prevailing wind of the month blew from the S. W. and N. W.

The barometric pressure was high.

An earthquake was recorded in some parts of Western Ontario at 3.30 p.m of the 19th.

OCTOBER.

Barometer.

Highest barometer, 25th 9 p.m	29.314	inches.
Lowest barometer, 22nd, 7 a.m	28.584	"
Highest mean barometer, 14th	29.254	"
Lowest mean barometer 22nd	28.618	"
Monthly mean barometer	28.914	"
Monthly range	0.730	"

Thermometer.

Highest temperature, 3rd	79°
Lowest temperature, 2nd	22°
Highest mean temperature, 4th	71.°333
Lowest mean temperature, 25th	30.°166
Monthly mean temperature	47.°418
Monthly range	57°

Pluviameter.

Days rain fell	16
Days snow fell	2
Greatest rainfall, night of 21st	
Total precipitation	3.091 inches.

Anemometer.

Direction of the wind:—

N.	E.	W.	S.	N. E.	N. W.	S. E.	S. W.
8	9	12	3	18	15	2	22

Greatest number of miles travelled in 24 hours, 21st	614	miles.
Greatest velocity per hour, 22nd, 7 a.m	32.2	"
Mean velocity for the month	12.475	"

Clouds.

Cloudy days	17
Clear days	10
Mean cloudiness for the month	5.2

Remarks.

The first week of this month was showery, accompanied by a north-east wind.

Frost occurred on the 9th and 10th.

The weather from the 9th to the 11th was fine; on the 12th a heavy shower of rain fell, and was followed by fair weather and frost on the 15th. From the 17th to the 22nd, a wet spell occurred, with an occasional fine day.

On the night of the 22nd, there was a light fall of snow, which was followed by blustering weather up to the 24th, when it cleared and remained cold. During the cold spell hard frost occurred.

On the night of the 26th a drizzling rain began, which continued up to the 31st.

The weather for this month was very unlike that of the corresponding month of last year, both as regards heat and moisture.

The mean temperature of the month was higher this year than last, the mercury registering 3° lower this month than the same month last year.

In October, 1883, there were 6 days on which rain fell; this year there were 10, the total precipitation being 3.091 inches for this year, and 1.460 inches for last.

The atmospheric pressure was above the average. The prevailing wind was from the S. W. and N. E. The weather during the fore part of the month was favourable for growth, fall wheat developing a good top.

NOVEMBER.

Barometer.

Highest barometer, 18th, 2 p.m.	29.146 inches.
Lowest barometer, 23rd, 9 p.m.	28.348 "
Highest mean barometer, 3rd	29.137 "
Lowest mean barometer, 26th	28.415 "
Monthly mean barometer	28.815 "
Monthly range	0.798 "

Thermometer.

Highest temperature, 23rd	70.5°
Lowest temperature, 27th	9.4°
Highest mean temperature, 10th	45.6°
Lowest mean temperature, 24th	14.3°
Monthly mean temperature	31.2°
Monthly range	61.1°

Pluviameter.

Days rain fell 2	
Greatest rainfall, 4th	0.75 inches.
Days snow fell 3	4 "
Total precipitation	1.48 "

Anemometer.

Direction of wind:

N.	E.	W.	S.	N.E.	N.W.	S.E.	S.W.
3	12	30	0	1	19	2	18

Greatest number of miles travelled in 24 hours, 23rd	839 miles.
Greatest velocity per hour, 23rd, 4 p.m	46 "
Mean velocity for the month	15.148 "

Clouds.

Cloudy days	25.
Clear days	5.
Mean cloudiness for the month	7.7

Remarks.

The weather for this month was very disagreeable, the whole month with the exception of a few days about the 15th, being one of rain and snow. In most every case the wet weather was followed by cold of two or three days' duration; flurries of snow occurred during the latter part of the month.

On the 23rd the atmospheric pressure was very low; during the night of the 23rd and the two following days, sufficient snow fell to make good sleighing, the sleighing remaining good to the end of the month.

This month was very unfavourable for taking up roots, especially the turnip, and farmers who delayed in this operation, had them considerably damaged by severe frosts.

The prevailing wind was the west.

This month, compared with the corresponding month of last year, was, taking the average, 4° colder.

DECEMBER.

Barometer.

Highest barometer, 26th, 2 p.m.	29.472 inches.
Lowest barometer, 15th, 7 a.m.	28.120 "
Highest mean barometer, 26th	29.384 "
Lowest mean barometer, 22nd	28.340 "
Monthly mean barometer	28.868 "
Monthly range	1.352 "

Thermometer.

Highest temperature, 31st	55°
Lowest temperature, 19th	– 18°
Highest mean temperature, 30th	44.3°
Lowest mean temperature, 19th	– 8.3°
Monthly mean temperature	25.9°
Monthly range	73°

Pluviameter.

Days rain fell 3	
Greatest rainfall, 7th	
Days snow fell 4	6 inches.
Greatest snowfall, 24th	
Total precipitation	2.1 "

Anemometer.

Direction of the wind:

N.	S.	E.	W.	N.E.	N.W.	S.E.	S.W.
3	3	11	18	6	11	7	30

Greatest number of miles travelled in 24 hours, 7th	873 miles.
Greatest velocity per hour, 7th, p.m.	41.7 "
Mean velocity for the month	15.6 "

Clouds.

Cloudy days	24
Clear days	4
Mean cloudiness for the month	7.7

Remarks.

This month began with a cold snap and good sleighing in some parts.

On the 3rd a thaw set in and continued till the 7th, removing all the snow. The weather from the 7th till the 14th was cold and cloudy. On the night of the 14th about two inches of snow fell.

From the 14th to the 26th the weather was cold and the sleighing excellent.

The frost about this time was intense, the minimum thermometer registering 18° below zero on the morning of the 19th.

On the 27th it became milder. The four following days were warm, not a trace of snow being left by the 31st.

This month was considerably colder than the corresponding one of last year.

MEAN METEOROLOGICAL Results for the Year 1884.

	1884. Guelph.	Average of 40 years, Toronto.
BAROMETER.		
Mean pressure for the year	29.191	29.616
Month of highest mean pressure	Jan. Dec.	September.
Highest mean, monthly	29.384	29.664
Lowest " "	28.174	29.572
Month of the lowest mean	January.	June.
Date of the highest pressure in the year	Dec. 26th.	
Highest pressure	29.472	30.358
Date of the lowest pressure in the year	2nd April.	
Lowest pressure	28.072	28.692
Range of the year	1.400	1.688
THERMOMETER.		
Mean temperature of the year	42.8°	44.17°
Warmest month	August.	July.
Mean temperature of the warmest month	65°	67.64°
Coldest month	January.	February.
Mean temperature of the coldest month	13.07°	22.73°
Warmest day	Aug. 18th, 20th.	
Mean temperature of the warmest day	76°, 78°	77°.85
Coldest day	Jan. 25th.	
Mean temperature of the coldest day	−9.6°	1.50
Date of the highest temperature	Aug. 18th, 20th.	
Highest temperature	93°	91°
Date of the lowest temperature	Jan. 25th.	
Lowest temperature	−35°	11.9°
Range of the year	128°	102°
PLUVIAMETER.		
Total depth of *rain* in inches	24.741	28.30
Number of days on which *rain* fell	68	110
Month in which the greatest depth of *rain* fell	October.	September.
Greatest depth of *rain* in one month	3.091	3.55
Month with most *rainy* days	October.	October.
Greatest number of *rainy* days in one month	16	13.
Day on which the greatest amount of *rain* fell	October 21st.	
Greatest amount of *rain* in one day	0.888	1.98
Total depth of *snow* in inches	59.5	
Number of days in which *snow* fell	31	
Month in which the greatest depth of *snow* fell	January.	
Greatest depth of *snow* in one month	35.5	
Month with most *snowy* days	January.	
Greatest number of *snowy* days in one month	11	
Day on which the greatest amount of *snow* fell	January 9th.	
Greatest amount of snow in one day	18	
Total precipitation in inches	30.691	

Your obedient servant,

R. B. HARE,
Professor of Chemistry.

PART III.

REPORT

OF THE

PROFESSOR OF VETERINARY SCIENCE.

GUELPH, DECEMBER, 1884

To the President of the Ontario Agricultural College:—

SIR,—I have the honour to lay before you the second annual report from the Veterinary department of the Ontario Agricultural College. In presenting my first report last year, I took the opportunity of describing and explaining the subjects taught, and mode of teaching adopted in furnishing the students with what is considered a sufficient Veterinary education for the practical purposes of a farmer, so that I have nothing to add to that statement this year so far as the inside portion of my duties is concerned.

With regard to the outside department, there are some matters of interest to speak of.

In the process of time, when another year is recorded as having passed, there are generally some casualties worthy of notice occurring amongst a stock of a hundred head made up of horses and cattle, together with a flock of sheep, numbering at the present time about seventy-five. The past year has proved no exception in this respect, and I have to report some losses sustained.

DEATH OF HORSE.

The first one of much moment was the death of a four-year-old colt—one of a matched team with a good deal of Clyde in them—which succumbed to that very mortal affection in horse-flesh called inflammation of the bowels. This case did not differ from the usual course of this affection, in being sudden in its attack, and bringing about a fatal termination in thirty-six hours.

As to the cause there was nothing ostensible amongst the usual operating influences that could be assigned as acting immediately in the production of this attack; but this animal was somewhat subject to irritation of the bowels, shown by its having had two or three attacks of colic of a very mild character, at different times.

The weather was mild and unchangeable so that he was subjected to no exposure, to act as an exciting cause in this way; neither were there any irregularities in his diet that would lead one to suppose that it originated from any form of indigestion; so I concluded that there was predisposition in this animal.

THE NEW STOCK.

In entirely re-stocking a farm, where an unlimited number of animals are available for purchase, it gives a favourable opportunity for procuring those that are endowed with

a robustness of constitution, as indicated by a healthy conformation, so that the likelihood of the development of any constitutional hereditary disease, is reduced to a minimum, in these animals, as well as in their progeny. Taking our recently imported herd collectively, there is every reason to congratulate Professor Brown on the selections he has made, and I see no cause to find fault with the physique in any individual instance, as regards the healthy indications. But from the prevalence of "Tuberculosis" in well-bred cattle, and from its insidiousness, it may elude the observation of the most wary, when in an incipient stage; and some remarkably well formed animals become its victims, which is evidence of its contagiousness, and that it is not always the result of heredity.

At the time Professor Brown imported, foot-and-mouth disease was especially rampant in Great Britain, so that it was very unlikely that cattle could be moved in that country without becoming infected; the knowledge of which, caused these cattle to be watched very closely for any manifestation of the disease. On their arrival at quarantine, in Quebec, evidence that all was not right was noticed, on making a very close examination of the mouth. Professor Smith was sent for, and on examining them could hardly make up his mind that the extremely slight deviation from the natural state of the mouth, unaccompanied by any of the other usual lesions, could really be the dreaded foot-and-mouth. He and I made a subsequent visit together and concluded that it was this disease, although of the mildest type possible several of the other herds then in quarantine showed similar symptoms, and in the case of one herd; there was more nearly an approach to a definite development, but in no case was there any evident systematic disturbance, the patients never refusing their food, although the mouth was the organ solely affected.

So far as the College herd was concerned, and in fact any of the herds in quarantine at that time, nothing was to be feared as regards the consequences of the disease to them, for it was, as I have said, an extremely mild attack of what is in a very large majority of cases a comparatively simple and by no means fatal disease. But being aware that the germs of this disease retain their vitality for a considerable length of time—having been known to do so for a period exceeding a month—some anxiety was felt lest by any mishap it should be communicated to the cattle of this country; so that these cattle were detained somewhat beyond the usual period, and went through a very thorough process of cleansing and disinfection before removal, in order to insure the destruction of the germs that would be eliminated from the systems of any of the animals attacked, in the convalescent stage of the disease. That our efforts were a success is proven by the fact that none of the animals outside of the quarantine became affected.

It may not be out of place to state here that in my estimation the quarantine system, as carried out in Quebec, is a most efficient one, their arrangements and regulations being of such a character as to render the introduction of a contagious disease into this country from that port next to an impossibility. The Deputy-Inspector, Mons. Couture, V.S., under whose immediate management the whole institution is, treats every one with the utmost courtesy and consideration, consistent with the enforcement of the necessary regulations. Not only does he attend to any contagious disease, but he is unremitting in his attention to any animal, no matter what it is suffering from, so that no one's property is likely to be jeopardized by submitting to this most necessary detention, if we are to remain free from diseases of the class already alluded to, in this country.

Causes of Abortion.

Within the last two months we have been subjected to the annoyance of having our cows, one by one, slip their calves, until the total number of abortions sums up to six. The first two or three cases occurred in cows that did not represent much money, but the remaining cases were amongst the most valuable of the herd, hence our annoyance.

On several occasions before, this accident has happened in single cases, and two years ago this winter as many as three shared a similar fate, but now it begins to assume a formidable aspect, and it is difficult to tell exactly where it may end. From reports I have heard, some of which I know to be authentic, it seems more than usually prevalent this year. There are very few breeders of much experience in this country that have not

realized losses from this cause; but it is from Great Britain that we receive reports of its proving a scourge, almost equalling in destructiveness some of the notorious contagious diseases. On this account we have had an expression of opinion in writing from every class of individual interested, from the peers of the realm to the cow herd, not omitting the highest veterinary authorities, and various theories have been promulgated regarding the cause, yet no sufficient light has been thrown on the subject to enable any one to avoid its baneful consequences.

All are agreed that it may result from some accidental cause, such as an injury by violence to a pregnant animal, or that any severe disturbance of the nervous system caused by excitement, fear or anger, may bring it about; but under these circumstances it occurs in a number proportionate to those subjected to such influences, the operation of which we can often detect. It is not, consequently, this phase of the affection about which there is so much controversy with regard to the cause, but in that form of it, in which there is no apparent cause, cow after cow aborting in spite of any effort that has been made to prevent it, until all or nearly all the pregnant ones have slipped, those five or six months gone being especially prone.

Some of the best veterinary authorities have concluded that it is infectious, and some have gone so far as to state that they have discovered a microscopic organism in the discharge that follows the exit of the calf, which they consider to be the active agent in the production of the accident.

Those that think it infectious, in supporting their views, bring forth circumstantial evidence to prove its correctness by stating that herds of cows that have previously calved favourably, on being moved into fresh quarters, where the accident had hitherto occurred to a marked extent, the new arrivals became victims to the same condition. Also, from introducing a cow into a herd that had left a stable in which the disease was prevalent, on the stranger aborting, a like occurrence presented itself amongst the others. They also claim that they can cause it to take place by smearing the maternal passage of a pregnant cow with the matter from the expelled membranes of one that has miscarried. All this certainly, if not positive proof, is strong evidence of its infectiousness.

Others hold that the influence which causes one case to follow another is sympathetic, the emanations from a miscarriage producing the effect, but it does not seem to me that this theory is so logical as the other, for on noticing a case resulting from an accidental cause which is apparent, we do not find that others follow, as in the manner described, especially if precautions are taken to remove any trace of the accident, which seems to have no effect under the other circumstances. However, it would seem that this sympathetic action does exist to some extent according to some observers, and that a pregnant cow coming in immediate contact with the flux from the womb of one that has aborted will bring about the same misfortune.

Our first two or three cases occurred during the autumn on pasture, and from the occurrence of so many cases under those conditions, caused us to look for the presence of ergot, or any other form of fungus on the fodder, but none was to be found; and the subsequent occurrence of cases after housing, and the feeding of different provender, were sufficient to prove that no diseased grasses could have been the cause. In the first case or two that appeared in the stable, isolation, disinfection and burning of the "after birth" were carefully carried out, but still another case or two presented themselves, which caused us to make a radical change in the surroundings, by renting a stable fully three quarters of a mile from the College one, and moving those cows which, from their period of pregnancy, we were most alarmed about; a man was told off to attend to this lot solely, so that as little communication as possible would be had with the other cattle. Unfortunately this new arrangement was not successful in preventing another very valuable cow from losing her calf, which occurred some five or six days after the change; however, everything has gone well since, nearly a month having elapsed from the time the last loss was sustained, and I am very sanguine in the hope that no more will be realized.

The conditions under which the College cattle live are certainly unfavourable in some respects. I mean with regard to the constant disturbance to which they are subjected by so many people being about. It can easily be understood that pregnant animals are all the better for being kept as quiet as possible, in reason especially when far gone

in that condition, so that when they have to be moved up a dozen times a day and often more in being exhibited to visitors, it is apt to act adversely on them; also, from such numbers of students passing to and fro, and coming in contact with them, generally, especially when the treatment they may receive at the hands of some of them cannot be ensured as being humane or good, no matter under whose supervision these students may be.

These remarks are equally applicable to the fattening stock, for it is no doubt during periods of quietude that most flesh is accumulated. The excitement and state of unrest caused by such animated surroundings must certainly militate against, and alter the results of, many carefully carried out experiments, in other respects; all this of course is unavoidable, but should be understood in justice to the animals fed, as well as the system adopted in feeding.

Sheep.

On the arrival of the sheep in quarantine some of them began to develop signs of foot-rot, and it went through them all with very few exceptions, but was of a mild character in most of them, some few cases proving rather obstinate and not yielding to the shepherd's assiduous attentions until some weeks after their arrival in their new home, but all are quite free from it now.

A very valuable Southdown ram showed an unthrifty appearance, coughed occasionally at first, but developed into a very distressing cough before long. His appetite failed him until he ceased eating altogether for some days before his death. He also became very lame in the off hind leg for the last two weeks of his existence.

A *post mortem* revealed a large abscess in each lung, involving most of the lung structure, and just at the hip-joint there was another abscess, accounting for the loss of power in the limb spoken of.

I am anticipating a *post mortem* on another ram, and expect to find similar lesions. I am of the opinion that this disease must have been present at the time they were purchased, though in an incipient and ill-defined form, so as not to excite suspicion of its presence.

In my experience, this is the form that lung disease generally assumes in sheep, there being a great tendency to the formation of matter (pus) in these organs.

This concludes the more important and serious conditions to which my attention has been drawn since my last report.

Your obedient servant,

F. C. GRENSIDE, V.S.

PART IV

REPORT OF THE PHYSICIAN.

Ontario Agricultural College,
Guelph, 29th December, 1884.

To the Honourable A. M. Ross,

Commissioner of Agriculture for the Province of Ontario:

Sir,—I have the honour to present to you my Annual Report.

During the early part of the year we had quite a number of the young men ill, the result of cold. One young man was attacked with congestion of the lungs and pleurisy, and although he so far recovered as to be removed to his home he gradually sank and died.

We have had several accidents, some of them of a serious nature; but all have recovered and are in their usual health.

There are many other cases that I might mention, but they are just such as are met with in every day practice.

I cannot close this report without again requesting an isolated apartment for the sick, and thus guard against disease, and save the sick the noise and commotion that cannot otherwise be avoided in an Institution of this kind.

I have the honour to be, Sir,

Your obedient Servant,

E. W. McGUIRE.

PART V.

REPORT

OF THE

PROFESSOR OF AGRICULTURE,

FARM MANAGER AND EXPERIMENTAL SUPERINTENDENT.

ONTARIO AGRICULTURAL COLLEGE AND EXPERIMENTAL FARM,

31st December, 1884.

To the Honourable A. M. Ross

Commissioner of Agriculture.

SIR,—I enter the tenth year of my work here under circumstances of unusual interest, and that require some time and room to make fully clear—if it be possible to do so in this form. Your own recent elevation to office—making the fourth Commissioner under whom I have had the honor to labor—demands, so to speak, a more strict "Roll Call" than has hitherto been requisite, and hence I beg your indulgence for what may appear an overlengthy document.

The great point to the Province is the Educational standing our College and Farm have attained, and whether they grow or lessen as part and parcel of our national requirements. The reflective note, in opening these brings up many interesting reminiscences of gentlemen who stood the brunt of the battle in our cause, and who are still prepared to defend the union of pen and plough, as a systematic branch of training for the young men of a new country

It is not worth while now, however, to either express regret or congratulation at some things in our history, because our present status can well exercise lots of charity; but, because there is danger in popular applause it becomes a serious duty of those responsible to the Government to shew cause for the future of what has been committed to their charge.

The bill our school is destined to fill is possibly less than what we have already on the card, for experience year by year has shewn that we are offering more than is actually required by the country. Ten years may be taken as a sufficient testing period for almost any enterprise, and are certainly very full for an educational one, so that we can confidently build upon what has been required of us in the College and on the Farm during that time.

In the first place, then, the farmer's son, and all others aiming at farming, have said very distinctly that they come to an Agricultural College to learn agriculture—direct practical and scientific agriculture, and nothing else. At the average age of twenty years, men are all the men they will ever be as regards aims and independent feelings—they are not school boys nor subjects to be handled according to a set rule of any sort, they feel their own wants, know best what they require, and invariably make for what they want most. At such an age the average student is not prepared to return to his three R's even should they be found wanting, for although we sometimes hear of such, it is unquestionably the exception to find a twenty-year-old "boy" at the desk with those of fifteen. In coming to our College, therefore, the farmer's son prefers to be taught in those branches of his profession that he can see and feel as of immediate use on his return home. It is a serious personal matter to him if he is thrown back upon his Mathematics and English, irrespective of personal desires.

We have lived then to know our own wants and those of the average student, and it can be no reflection on our work that change is desirable—much otherwise, for we grow with the growth of the country, and those for whom the Institution was designed: an unchanging education may be safely set down as a non-progressive one, and not likely to fulfil its objects. We know why at other colleges students in taking say a Mathematical course, must also take subjects allied to Mathematics, and so the Agricultural student is asked to take those that bear a similar relation.

But even in this I think we are asking too much. As yet the world's experience has failed to shew that the practical farmer needs more than a familiar acquaintance with the *Principles* of the sciences that affect his business. It is an old exploded notion that a farmer should be a practical Chemist and Botanist. I would fail to shew that we could do without any of the professors of these sciences, as much as I would fail to prove that the farmer should not have a liberal English education. This is not the point. What I desire to submit is that, in order to produce a plant and animal to the best advantage it is simply unnecessary to take them to pieces as the expert alone can do after a life-time's work. Our Chemistry and Botany should be therefore but an appreciative peep into how they affect the farmer in producing the particular plant and animal, under conditions.

When President Johnston and others laid the foundations of this, it was largely upon the failures of other similar Institutions, and hence much of our past success; now, with a growth of ten years it is time to take stock, in order to prune, graft, and organise for another decade.

As an experimental station the Government have dealt so liberally with us, and so much has already been done in some lines, that it is difficult to indicate where to improve or extend. Extension in chemical research is perhaps desirable, but as you will see from this report we have made a wide departure in such work, the value of which will soon be estimated. As we possess unusual appliances in live stock study, the country should ere long be full of everything relating to adaptibility of breeds to Canadian conditions.

II.—FARM CROPPING, 1884.

To Prof. William Brown:

Sir,—I have the honour to submit to you the Report of the Farm and Live Stock departments. It affords me much satisfaction to be able to inform you that the past year has been one of steady progress in these departments. I have endeavoured, as far as the time at my disposal would permit, to improve the appearance and condition of the large tract of land under cultivation, and clear up part of the unbroken portion. The fields have undergone a great change; fast stones have been removed from all, except Nos. 19 and 21 which have not yet been finished, but will be, it is expected, next season. Although it cannot be said that the farm is yet free from thistles, it must be admitted that comparatively few remain in any of the fields, while many of them are entirely clean.

When it is known that farms adjoining us are very prolific in the production of these pests, the difficulty of eradicating them in our own may easily be imagined.

Field Cropping.

Below will be found a narration of the crops gathered from the different fields during 1884.

Fields.

No. 1.—Twenty acres, ten which were under turnips, yielding 800 bushels per acre; nine acres of this field were under mangold, yielding 953 bushels per acre; the balance of one acre was sown with carrots (White Belgian), yielding 900 bushels.

No. 2.—Eighteen acres, all under hay, first crop bringing 1½ tons per acre.

No. 3.—Twenty acres, four acres of turnips, yielding 750 bushels per acre; four of potatoes yielding 202½ bushels per acre; ten acres were sown with corn to be used as green fodder and for filling silos to make ensilage; the balance—two acres—are planted with tree clumps.

No. 4.—Twenty acres, pasture and bush.

No. 5. " under hay, yielding two tons per acre.

No. 6. " hay, crop yielding 1½ tons per acre.

No. 7. " " "

No. 8. " " two tons "

No. 9. " sown with oats (Black Tartarian), yielding 50 bushels per acre.

No. 10. " ten of which were under fall wheat, yielding eighteen bushels; this wheat was very rusty, hence the deficiency; the balance of the field is planted with fruit trees.

No. 11.—Twenty-three acres, summer fallowed and sown with fall wheat, and seeded with timothy; the other grasses will be sown in the spring.

No. 12.—Fifteen acres uncultivated and used as pasture.

No. 13.—Twenty acres; fifteen sown with oats, which being badly rusted, yielded but thirty bushels per acre; one acre under vetches and oats, used as green fodder, was a fine crop; the balance—four acres—are at the disposal of the students as a recreation ground.

No. 14.—Twenty-five acres—experimental field.

No. 15.—Twenty acres hay, crop yielding two tons per acre.

No. 16.—Twenty-five acres hay, " 2½ "

No. 17.—Seventeen acres, eleven of which were sown with white barley, yielding forty bushels per acre; the remainder five acres of black barley yielded forty-five bushels to the acre.

No. 18.—Thirteen acres. sown with spring wheat (White Russian), yielding thirty bushels per acre.

No. 19.—Thirty acres hay, crop yielding 1½ ton per acre.

No. 20.—Remains uncultivated.

No. 21.—Sixteen and one-half acres, sown with peas, yielding thirty-five bushels per acre.

It may be remarked that too large a proportion of the farm has been allotted to the growing of hay. So many fields being under hay crop is in consequence of the live stock being sold to make room for the fresh importations. On this account about sixty acres, which were intended for pasture, were not used and thus the crop was harvested.

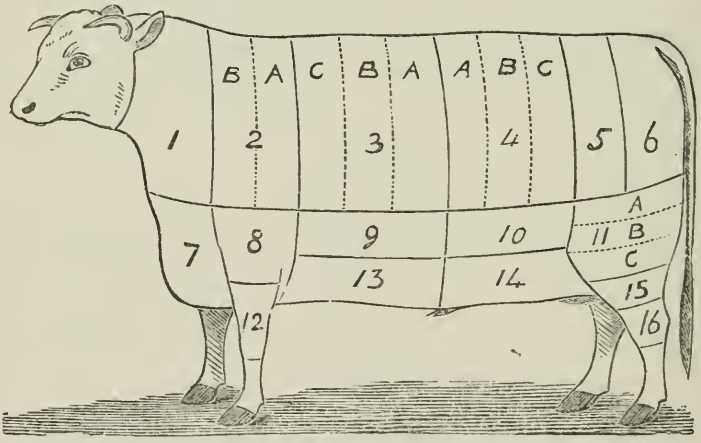
The Live Stock.

Since my last report a marked improvement has taken place in the Live Stock department. In compliance with the request of the Government you visited the Old Country and there purchased a large number of thoroughbred cattle and sheep. The selection now to be seen in the stables is probably the finest in America. There are ten breeds of cattle

represented in the stables. Among the many fine animals which command the admiration of stock raisers, "Rob Roy," the celebrated Shorthorn bull, stands pre-eminent. He is a model Shorthorn in every respect, and one that will stand the criticism of the most experienced and intelligent breeder. The Hereford, Polled Angus, and Holstein bulls are also splendid specimens of their breed. In fact the collection of cattle on the whole is really an admirable one. The recent importation of sheep comprises eight different breeds. It is unnecessary to particularize them. Suffice to say, therefore, they are fine specimens, and are greatly admired by all who have seen them.

It is not easy to estimate the value which this importation is to the College and Farm. A thorough practical knowledge of all the points and characteristics of the different breeds can now readily be imparted to the students. They take a deep interest in attending to the stock, and appear to profit much by the practical experience which they may so easily acquire. The special Live Stock class has made rapid progress during the past year. It comprises twenty-five students. I deliver lectures to them daily, on the important subjects embraced in stock raising. It may not here be inappropriate to enumerate the points which I particularly explain to the class. They are (1) the treatment of cattle, sheep and swine; (2) judging and handling store and fat cattle; (3) milking properties of cattle; (4) when cutting up the meat for the College, I explain the different parts of beef, mutton and pork, stating the market value of each part of the carcase. This instruction is to the students a sequel of what has been told them relative to the points in live animals. It also furnishes them with a practical knowledge of what the prime parts of the animal are and the relative value of it when alive.

To more plainly illustrate the nature and value of the instruction which the students receive in their departments, the accompanying outline of a model steer, ready for the shambles is given. On it are shown the butcher's cuts, with the names and average price of each part subjoined.



MODEL STEER, SHOWING BUTCHER'S CUTS.

	cts.		cts.
1 —Neck	5	7 —Brisket	8
2A—1st Chuck Cut	11	8 —Shoulder Roast	10
2B—2nd Chuck Cut	10	10 —Upper Flank	8
3A—1st Rib Cut	12½	11A—Round, or Buttock	12½
3B—Centre Rib Cut	15	11B—Round, or Buttock	10
3C—3rd Rib Cut	12½	11C—Round, or Buttock	10
4A—Wing Cut	12½	12 —Fore Shank	3
4B—Sirloin Roast	12½	13 —Navel	8
4C—Centre Cut with Tenderloin	15	14 —Lower Flank	7
5 —Sirloin Steak	12½	15 —Hock	5
6 —Rump	10	16 —Hind Shank	3

The above table shows the prime parts of the animal. The student will readily perceive the importance of developing the animal in those parts which receive the highest

price from the butcher. The necessity will then occur to him of selecting cattle for feeding which are well formed and which give promise to be models for the butcher's market. If the store animal is long in the neck and legs and heavy in the bone, the probabilities are that its market value will be depreciated by the large proportion of coarse meat. The value of the student thoroughly understanding the tastes and requirements of the butcher, cannot be overestimated, as on that knowledge, to a great extent, depends his success as a feeder.

Remarks.

It affords me much pleasure to be able to testify to the worth of the windmill pump in supplying water to the stock in the south-west portion of the farm. This mill was erected during the summer of 1884 by Mr. Wm. O'Connor, agricultural implement manufacturer, of Guelph. A wooden tank, with a capacity of three thousand gallons, is situated on an elevated platform beside the pump. Into this tank the water is pumped. Pipes run from the tank into troughs in five different fields, and thus all the stock in these fields have a regular supply of pure spring water. The arrangement which regulates the supply is an ingenious piece of mechanism. Floaters are placed in the tank and troughs. As soon as all the vessels are full, these floaters close the taps and shut off the water. The water, in consequence of not getting into the tank, is forced into a cylinder attached to the pump. The force of water in this cylinder puts the windmill out of gear. When an animal commences drinking at one of the troughs the machinery is again in operation and continues so until there is no more water required. Thus at all times there is a plentiful supply of water on this part of the farm. The benefits derived from having such an arrangement are numerous, and everyone in connection with the stock department considers the windmill a great boon. Knowing the value of it, I would respectfully suggest to you the advisability of recommending that another windmill be placed in the north-east portion of the farm for the stock there. This, I think, is an important matter and deserves earnest consideration, as the cattle should at all times have access to water and not be confined to it at stated intervals. The beast is the best judge itself of when it requires a drink; and water should always be free to it.

Almost continually during the past season we experienced a great deal of trouble and loss through neighbouring cattle trespassing on the farm. In summer they run over the crops and do considerable damage, and in the fall they destroy our newly seeded meadows. The greater part of our line fences are of the old rail or snake style. I would recommend that a board fence be placed in their stead, and then we would have little to fear from the intrusion of neighbouring animals. The poor rails in the present fences could be used as fuel for the farm engine, and the good ones would do valuable service in repairing the inside or cross fences.

While referring to this question there is another very important matter which I desire to lay before you. The peculiar shape of the farm as it now stands, renders it practically impossible to lay it out in as regular and convenient a style as would be desired. This is in consequence of the breaks made in the block by the three tracts of land owned by Messrs. Stone and Hamilton. These portions comprise about 150 acres in all, and were they in possession of the Government, the whole block would constitute the Experimental Farm. Then a lane could be run the full length of the place and fields of uniform size laid out. The annoyance now experienced from cattle trespassing on our fields would then be obviated, as it would be next to an impossibility for the animals to break down the road fences. To be more explicit, I would here submit a plan of the farm, showing the property owned by Stone and Hamilton. The irregular shape which the rear end of the farm now presents will be seen at a glance.

In response to the recommendation made in my last report, part of the implement shed is now being fitted up with shafting, pulleys, etc., for running farm machinery during the winter months. It will be so arranged that a self binder, reaper, mower, and seed drill can be in operation at the same time. The object of this is to accustom the students to the machinery. They will be instructed how to take apart and set up each machine, so that they will naturally become familiar with each part of them. I expected that a much larger and more comfortable building would have been assigned for this purpose, as

I had in view the desirability of teaching the students hand sowing. The place now being arranged is, however, much too small for such purpose. It would be well if the Government, when considering the erection of new buildings, should bear in mind the necessity of a structure such as the one I have alluded to.

There are two men at present at work in clearing field No. 12 so as to make it arable. The land in this field is excellent and it promises to be the best on the farm when properly worked. It will, however, never be in a state of cultivation until well drained, as it is very low. There is an absolute necessity for having this field drained. Nos. 17 and 18 are well cleared, but also require drainage. I hope and trust the Government will place a sufficient sum to the credit of the drainage fund to enable us to drain these three fields.

I have the honour to be,

Sir,

Your obedient servant,

P. J. Woods.
Farm Foreman.

III.—LIVE STOCK.

We are now in possession of nearly all, if not all, in cattle and sheep life that stands of any considerable value to the civilized world. It is something to say that our Farm is unrivalled in this respect, and as you honored me with the selection, I beg now to submit report of what I found and have done.

1.—Britain the Home of Live Stock.

To very many of our farmers the position of Britain as a breeder of Live Stock is largely unknown. The wonder is how such a small country can hold so many valuable herds and flocks of so many distinct varieties, and beat the American Continent in maintaining them in all their goodnesses. From the sea shore in a straight line fifty miles, up to four thousand feet above its level, we touch the home of no fewer than twenty prominent varieties of cattle and sheep—each so different in points and characteristics as would seem to demand an island for itself, bearing all the physical conditions that are known to be necessary in helping to make the particular breed. Then, to an American it is more than a wonder how lower life with so much stamina and general richness can be upheld subject to all the fog, and dust, and rain, and smoke, and rawness, and cloud that seem to prevail 365 days a year. Skill, climate and soil have made Britain's herds and flocks, and nowhere else can the same thing be done and maintained.

2.—Britain's Herds.

England's greatest combination of beef and milk is as prominent in numbers and power of good things as ever. In comparison with other breeds the Durham of Old England maintains a stately majesty of position that reminds one of "Landseer's famous dog picture."

Times will boom for most things of any national importance, ranches will rise and fall, the Dairy interest fluctuate, and Live Stock trade generally will go and come according to supply and demand, but no form of national or international trouble will ever lower the blood of Booth or Bates in the eye of John Bull.

The writer had simply to bow in passing Warlaby for the one side, and Hindlip Hall for the other side, of the same house. These are the representative herds respectively of Booth and Bates at the present moment in England. The many others of equal merit cannot even be named because of their numbers, and what surprised me as much as any

thing was my inability to distinguish any prominent difference in general type between the two "bloods" in Short Horns. I went unprejudiced—I remain unprejudiced.

I found a marked recognition in practice of breeding for better constitutions, to meet the outside markets of the world, and at the same time to throw off the grossness of frame that had crept into some herds. Constitution and quality in a compact medium frame are not in any way opposed to nature, and are certainly most desirable for the American and Canadian market. I was much pleased to find that while Short Horn breeders are, as a matter of business, paying some attention to the colors to which we are at present wedded, they are not afraid to use *white* quite freely. I think there is less pampering than formerly existed, though a decided increase of flesh amongst the Herefords. It is likely that the present demand for this magnificent grazier is tempting to make condition fill the American eye. If this is not cautiously handled there will be a serious reflex, some day, and yet I admit that the breed can hold lots of flesh and do well. It is not difficult to see a near lull among these, that will last till the present extensive exportations require replenishing. I think it would be well were Hereford breeders more particular about markings and pedigree. That *white* is against either the Short Horn, the Hereford, or the Aberdeen Poll, is not admitted of course, but an uniformity of color is clearly desirable when there is a prevailing type, as recognized by the leading men. These apparently small things *pay*. The rush has been so keen and fast for Herefords, that I found some breeders unable either to name their animals or give their pedigree.

The increasing feeling in the States and Canada for what are called "Scotch Short Horns" was not unknown. While it is desirous to encourage every point that goes to make a perfect animal for a particular purpose, there need be no fear on the part of England proper that her type of Short Horn has not all the field she can possibly fill; for example, while I think I secured the best bull in Britain *for our purpose*, from Scotland, I am certain there are others in England equally good for other purposes.

But Scotland's new beefer is unquestionably the Aberdeen Angus Poll. In these times of *specialties* this breed of cattle is bound to fill a big place in the world's products. The hardiness, early maturity, general quality, and weight of the Watson—McCombie Poll cannot fail to lead where average physical conditions prevail. I do not say any extreme conditions. It was really a very pleasant duty to inspect, as I did, nearly every prominent herd of these in Scotland, and to see so much "canny," foreseeing, practical judgment exercised in their extensive production. I could not buy from some even at £1,000 a head, and yet I gave the highest price that had ever been paid for a bull. The black diamonds of the north of Scotland will make warm ground for the Short Horn and Hereford. The polls of the south of Scotland, usually called Galloways, are gradually obtaining the place that no other breed can fill so well. That they are destined to lead where all other beefers fail, I think there is no doubt, and in view of our first purchase of this breed I took care to obtain the oldest and best blood that Scotland possesses. The American continent is not a lover of Devons, because of their want of size and early maturing in these fast times. Yet, the Devon has had a place and may improve it considerably in connection with the butter factories of the States and Canada. These, with the Dutch, Guernsey, and Jersey, our farm secured for the purpose of testing by strict experiments how far they are adapted to Ontario requirements in milk, cream, butter and cheese.

3.—British Farmers

I had the honor of addressing the British farmers through their own Agricultural Press—the object of my letter being to indicate what a fine field Canada is for those who desire to prosecute the breeding of live stock under conditions that Britain cannot now afford to all. I have not since had an opportunity to acknowledge the large number of letters in response, and my inability of personal reply to each. This response from the farmers of Britain sent me home with mixed feelings. To find so much intelligence and enterprise, as it were, tied-up and struggling, seemed to a colonist very curious. I am not a believer in sub-division of landed property, and trust aye to find large estates and progressive landlords, but I cannot understand why unfettered men, as every tenant actually is, hold so fast and long to the flesh pots. Then, I wish to record what seemed

to me a very glaring inconsistency. As a stranger to the mother country, during the agricultural difficulties of the last decade, I was prepared to find many changes—such as naturally follow hard times. In my run of over 2000 miles in England and Scotland in search of the eighteen breeds of cattle and sheep, I had necessarily good opportunities of seeing all classes of farms and farmers. In not one instance did I find the thread-bare coat, the haggard look, nor the starving kine of the decaying husbandman. On the contrary, I found no lack of good things—even to the profuse cellar;—not, remember, alone at the larger class of farms, but with those of small holdings. So also, why is it that the British farmer—the average one—won't work with his own hands, and brave the agricultural wolf, as to which he has made so much ado of late? In many cases I found him idling in the house while their men were at work in the field. Farmers have no right to cry hard times and act in this manner,

I cannot too fully express thanks to the very many who gave counsel and help in securing what was unquestionably one of the most unique and specially valuable selections of live stock. I got some very fine animals, and necessarily had to pay for them. When you pick a man's herd or flock, high prices will hold. Britain need never fear for her agriculture so long as she can produce the pasture and the live stock she is now doing, at the same time keeping in good terms with the other fields of the world.

4.—British Flocks.

It is perhaps because Canada is weaker in sheep than in cattle that I thought more, as a whole, of the sheep of Britain than her cattle. It is a proud thing to say that Britain holds every breed of sheep but one in the world of any important value to herself or any other country. The Merino has not yet succeeded in securing a place where so much of its wool is used—a fact attributable to its inferior position for the butcher. But amongst Britain's thirty different types of sheep, there are practically but ten that any one—an experimental station, especially—need trouble about. I was specially struck by the free practice of in-and-in breeding in flocks, and how it can be so safely pursued there in comparison with the real or assumed dread of it on the American continent. Britain can grow wool as well as mutton, but not needing to do so as a matter of necessity, it was another surprise to find so many grandly woolled flocks of every breed. There is more risk in importing diseases with sheep than any other class of animals, because of their own numerous troubles in Britain, coupled with the carrying property of wool. Our views of the hardy character of the Leicester were fairly upset by finding them shorn and on exposed pasture in cold, wet weather in the end of April in Ayrshire—doing well. They still represent Bakewell's "Soda Water Bottle," in the Border as well as English type, and distinct enough in want of paunch and under wool; but what splendid backs and forequarters! We, states a Canadian, like the gray-faced better than the white Cotswolds, thinking them hardier, better in quality and with better fleeces. The Canadian period for Lincolns is either gone or has to come. The American impression of roughness and want of compactness among Lincolns was not borne out by what I saw of them in England. To be unable at times to distinguish a Lincoln from a Leicester is anything but evidence of such a character, and it is doubtful if we have done justice to one of England's swamp sheep. We have no hopes of making any value for Canadian purposes of Scotland's black-faced Highland. A hardy British breed does not necessarily imply ability to withstand extremes of climate. Heat will kill some animals quicker than cold, and our study of sheep life says that not only will the wool of this breed deteriorate rapidly here, but constitution will also suffer. Three years will tell something with what we have on hand. But the Cheviot has a better prospect with us; for, in addition to a better wool value even than the Leicester at present, its possession of Leicester blood and more southern habits will command its use in crossing with scrubs for certain purposes. An Ontario manufacturer offers us now four cents per pound more for Cheviot than for Leicester wool.

We can say a good deal already about Down experience, with the exception of Hamps. These we now have for the first time, and if they behave as well as the Shrops have done, Canada will be pleased indeed. They are much stronger built, and finer in

wool than the Shrop. We have not lost faith, however, either in Oxford or South Down, though the one may be called too big and the other too small for some purposes. The four Downs of England are making her exhibitions more interesting every year, encouraged no doubt by different crop-growing and disease among cattle.

5.—British Pastures.

It is mild to say that, but for her pastures Britain would have been a poor place, agriculturally, during the past decade. But her pastures are pastures—rich enough in wealth, sweet, always crisp, always fresh—a new crop every morning, a clean bed every night, and abounding in shelter and water. British pastures smell of fatness twelve months a year.

6.—British Proprietorship.

It may be expected of me as an old country factor, or estate agent, that something should be said about what I thought of British proprietors after a long absence. The change in personal interest, if not personal management on the part of very many of her owners, is more real than the outside world kens. More home staying, more advice with the manager, and much more public talk, if nothing else, so that lords and land laws are familiar terms enough. Whatever may be Britain's agricultural future, I trust she will never want for such a stamp of tenant proprietors as I had the honour of meeting in Ayrshire. In a high-lying, somewhat exposed district, not far from Robbie Burns' home, this gentleman cultivates about 450 acres of a partly stiff clay, and more of a light sandstone shale soil. The general character of the estate is decidedly favourable to dairying, and consequently there are as many as sixty-five pure Ayrshire cows, twenty yearling heifers, as many two-year-olds, and ten bull calves. There are also one hundred breeding ewes of the Leicester-Cheviot cross, the combination of early maturity and hardiness so much liked, together with ten blood Clyde mares, pure bred, and each worth $800. The valued rental is $3,500 a year. Cropping is usually seventy acres grain, thirty of roots, one hundred of hay, and 250 acres permanent pasture. His practical faith in quantity and variety of plants in pasture will astonish most Canadians. For permanent runs he sows:—

Italian Rye		10 lbs.
Perennial Rye		24 "
Orchard		6 "
Meadow Fescue		4 "
Crested Dog's Tail		3 "
Timothy		3 "
Peas		4 "
		64 "
White Clover	2	"
Red "	2	"
Yellow "	2	"
Alsike "	1	"
		7 "
Seeds per acre		71 "

These for the lighter soils, and fifty-four pounds *only* for heavier ones. Manures are applied to the root division and to the pastures. Of special manures, he uses 225 pounds mineral superphosphate, 56 pounds sup. of potash, and 56 pounds nitrate of soda per acre. The manures purchased bill about $4,000 annually, and the cake account never less than $4,500. Sheep produce all goes off in June as lambs. Revenue otherwise derived from direct dairy products, young horses, fattened pigs—as much as $1,000 a year—and oats. Fillies are mostly kept, but colts all sold as yearlings at an average of $700 a

piece. The food of cows in winter is generally straw and turnips before calving, with hay, and one and a-half pounds per head daily of cotton cake. The buildings are first-class, with covered manure shed, and liquid manure conveyed to tanks a-field. The proprietor lives in Glasgow mostly, and visits the farm about once a month. There is no extravagance anywhere apparently, though the master is a follower of the hounds.

7.—Our new Importations of Live Stock.

The very liberal appropriation of $25,000 for this purpose has been expended. In offering and accepting of the honour of the selection of specimens of no fewer than twenty different breeds of cattle and sheep, the government ran considerable risk and I much danger—risk in Canadian judgment and danger of personal reputation. No one man can possibly be the best judge of so many distinct types, and for a public institution where thousands have to be pleased, the task was far from enviable. There was not even the shadow of a holiday about the business, but hard physical and mental work day and night without intermission, for nearly three months.

What I did, and did not do, in every case in Britain, would be an unnecessary writing detail, but a few general remarks will not be out of place.

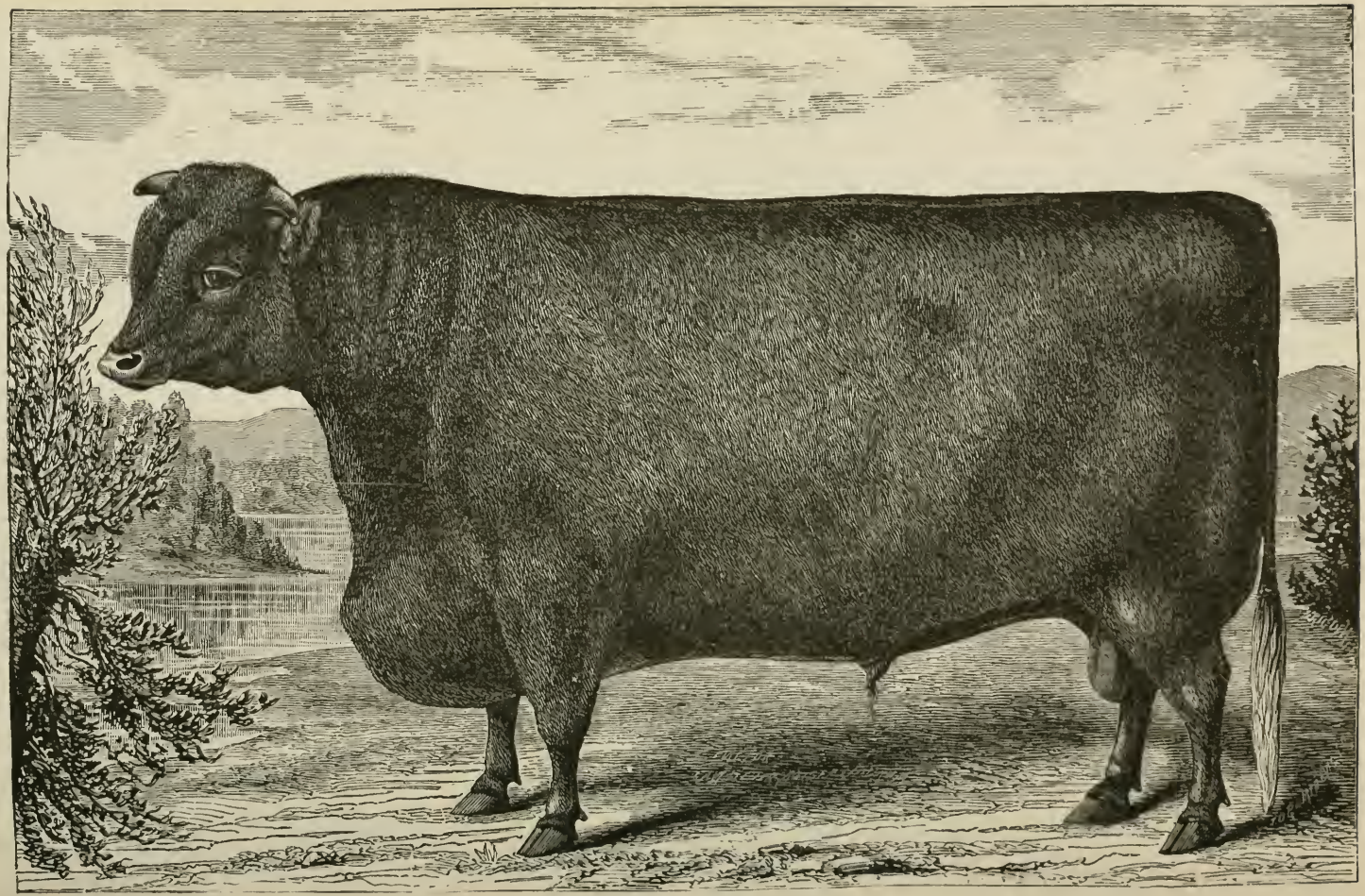
In a few instances I found it a disadvantage to represent a government, but in the majority of cases it was not so, indeed considerably favourable as a matter of business. Our college and farm is so well known in Britain that many breeders desired to connect by sale, and some did us the honour of reducing prices to cement the tie.

I offered higher prices for cattle than for some of those we secured, but the Great Tops of England and Scotland could not be bought. I looked first at the animal and then at the pedigree—never pedigree first. I thought it absolutely essential to have a good pedigree, but more important to get animal form. As between male and female, I considered it good policy to place more money proportionately on the former than on the latter, and I am glad to say that we succeeded, without a single exception, in having every cow or heifer in calf or with a calf at foot, so that in place of twenty-six females, we have really imported fifty-two of them, including calves.

In view of the well known objection to white among Durhams in Canada and the States, I declined a bull in England at one-fifth less money than given for the one imported—the one being equal to the other, and the former much younger. The market must be respected. Similarly, I had to bow to our own prejudice in the case of Ayrshires—dark or white leading in Scotland, but being objectionable here. With a first-class mixed pedigree, I think we obtained one of the best Durham bulls in Britain. I saw two better Herefords, and three better Aberdeen Poll bulls than those we hold.

On the character of the whole importation, I beg to quote from several good authorities :—

The Shorthorn bull, "Rob Roy," (45484) was obtained from Mr. Duthie, of Collynie, Aberdeen, under favour to the Experimental Farm. This magnificent animal was refused to a Canadian in 1883 at any price, and in his letter to Mr. Brown, Mr. Duthie says: "I never parted with an animal with so much regret as I do with Rob Roy, and had it not been for the way in which you have behaved, and for the credit of our breed, I would never have put him in price." With reference to this bull, the *Live Stock Journal* of England says :—"The bull is Rob Roy (45484), a very large and handsomely-formed red, bred by Mr. James Gordon, of Arabella, Ross-shire, out of a cow named Luxury, which Mr. Gordon obtained from the Midland Counties of England, and got by the well known 400-guinea showyard hero, Rosario (35315), whose sire was the celebrated Duke of Aosta. Mr. Gordon purchased Rosario at the Highland Show at Glasgow in 1875—the year in which the Duke of Aosta and his two beautiful sons (Rosario and Pioneer), swept everything before them at the three national shows. By many good judges, Rosario was considered the best bull of that remarkable trio, and Rob Roy is very little inferior to his sire. Larger in size and fully as wealthy in flesh, Rob Roy is perhaps scarcely so gay and so attractive in character as his sire was in his youth, but he has, indeed, very few faults. He is long in the frame, admirably let down behind, broad and level on the back, with great wealth of flesh, excellent quarters, and good head and horn."



SHORTHORN "ROB ROY" (45484).

The cows, Princess Royal 8th and Mademoiselle, from the same herd, are beautiful types of the proper beef and milk combination in a Shorthorn; they are true females of grand quality, and even throughout. "Mademoiselle," says the critic already quoted, "is a long, level, light roan, with the choicest of feminine character, and exceedingly fine quality."

Baroness Wild-Eyes is a neat specimen of the Bates' blood, and secured for educational objects from Mr. Evans, of Uffington, England.

The Hereford bull, Conqueror (7510), stood very much unknown to either the American or English breeders because of the comparative privacy of Her Majesty's herds at Windsor, and would certainly not have been sold but for reasons similar to those expressed by Mr. Duthie. The same high class journal of England says: "At the head of the Herefords is the beautiful two-year-old bull, Conqueror. In the hind quarters he is not so well filled out as could be desired, but otherwise is admirably formed. His shoulders are well laid in, his ribs wide and well covered, loin strong, cover of flesh very rich, quality excellent, and character faultless, his head and horns being very attractive. As noticed two weeks ago, Conqueror was bred by the late Mr. Carwardine, Stockton Bury, got by the celebrated Lord Wilton (4740), and out of Coral, by Rodney (4907), the sire and dam of Mr. Taylor's second prize two-year-old bull at the Royal Show at York last year."

With a view to experimental work, the very large cow, Bloomer,—"wide and deep n the frame, richly fleshed and of good quality,"—and Cronkhill Duchess 2nd,—"handsome and attractive,"—may be taken as specimens of this class.

No better authority on Aberdeen Angus Polls can be had than Mr. McDonald, editor of the journal already quoted, and with reference to those at the Ontario Experimental Farm, he says: "Of this popular and very valuable breed, Professor Brown has taken with him some very good specimens; two of them, in particular, are of very high merit, namely, the two-year-old bull, Strathglass (2.357) and the four-year-old cow Kyma (4969), purchased from Mr. Wilken, Waterside of Forbes, Alford. Strathglass was bred by Lord Tweedmouth, Guischan, Inverness-shire, out of the 155-guinea cow, Witch of Endor, and got by the Pride bull, Heir of Glory, and won the first prize in the yearling class at the Royal Show at York last year. He was purchased by Mr. Wilken, when a calf, at 103 guineas, and it is worthy of notice that at the Tillyfour dispersion sale, his dam was by many good judges accorded the premier position for symmetry, quality and character; also, that the dam of his sire, Pride of Aberdeen 9th, was the highest priced animal at that memorable sale. Large in size, and very well fleshed, Strathglass is specially good over the loins and back ribs, while he is deep in the carcase, of good quality and excellent masculine character. The cow that accompanies him from the Waterside Herd is a very thick, handsome and heavily-fleshed four-year-old, of good character and fine quality. Although not more than four years old, she has at foot her fourth calf—a very nice bull, got by Paris 4th (2277). Her last year's bull calf was sent to Canada, to the Hon. J. H. Pope, Minister of Agriculture. She was first at the Aberdeen Show as a heifer with calf at foot, and first at Alford last year in the cow class. Two good cows were secured at Mr. Bennett's dispersion sale at Marypark, Inveraven, and along with these goes a promising bull calf from Mr. Grant's herd at Advie." For notes to Sybill's Darling 2nd—an Aberdeen Angus Poll cow of high merit—see pedigree.

The Galloways are not only of the best families, but unusually good specimens of the breed. Stanley 3rd, of Drumlanrig, by the famous Black Prince, is a long, level and very promising young bull.

The Devon bull, Rose's Duke, is from the Stowey Court herd, still so well known for purity and good size, and the cow, Esmeralda (4433), from Windsor, is such an unusually large, well-formed animal, as will probably draw some criticism.

The specimens of Ayrshire cattle are from herds well and favorably known in Scotland. The pedigree notes indicate individuality that has already been sustained since importation.

The Guernseys and Jerseys were obtained direct from these Islands by the agency of Mr. Fowler, of Bushey, England.

The *Live Stock Journal* says: "All these animals are of the choicest quality and characteristic shapes."

"Very good as is the collection of cattle, that of sheep is equally good, if not, indeed, even better." This introduction by Mr. McDonald is enough. The pedigrees and notes to each of the classes are sufficient to guide those interested.

As the country desires to know the character of our male animals by pedigree, I have pleasure in giving each.

SHORT-HORN.

Rob Roy (45484).

Red, calved 23rd June, 1880; bred by J. A. Gordon, Udale, Scotland.

			BRED BY
	sire Rosario (35315)		A. H. Browne, Doxford.
dam Luxury	by Heir of Windsor (26364)		Mr. Carr, Stackhouse.
2. d. Lemon	" Havelock of Lucknow (16242)		Lord Walsingham, Merton Hall.
3. d. Legacy	" Lablache (10387)		C. Barnett, Stratton Park.
4. d. Lovely Kate	" Hosills (14720)		Mr. Pym, The Hasells.
5. d.	" Young Wynyard (15524)		Earl of Hardwicke, Wimpole.
6. d.	" Young Linton (4206)		" "
7. d.	" Burleigh (3244)		Mr. Pym, The Hasells.
8. d.	" Woodville (2856)		Mr. Whitaker.
9. d.	" George (1068)		Marquis of Exeter.
10. d.	" Constellation (919)		Marquis of Exeter.
11. d.	" Young Favorite (254)		C. Colling.
12. d.	" Midas (436)		Mr. Grant.
13. d.	" Major (397)		C. Colling.

Price, £450.

Rob Roy (45484), in 1882, won 1st prize at Dingwall in the class of two-year-olds. In 1883, at the Highland Society's Show at Inverness, he won 2nd prize in a large class of bulls.

His sire, Rosario (35315), won 1st prize at "The Royal English," "The Royal Irish," and "The Highland and Agricultural Society of Scotland," Shows.

His dam, Luxury, won 1st prize as a cow at Birmingham.

HEREFORD.

Conqueror (7510).

Calved 25th April, 1882; bred by T. J. Carwardine, Stockton Bury, Eng.

	sire Lord Wilton (4740)		W. Tudge, Adforton, Herefordshire
dam Coral	by Rodney (4907)		T. T. Carwardine
2. d. Blossom	" DeCote (3060)		Thos. Edwards, Wintercott
3. d. Fera	" Heart of Oak (2035)		J. Rea, Monoughty
4. d. Rosemary	" Counsellor (1939)		Phil. Turner, Pembridge
5. d. Silver	" Downton (1219)		John Ashwood, Downton.

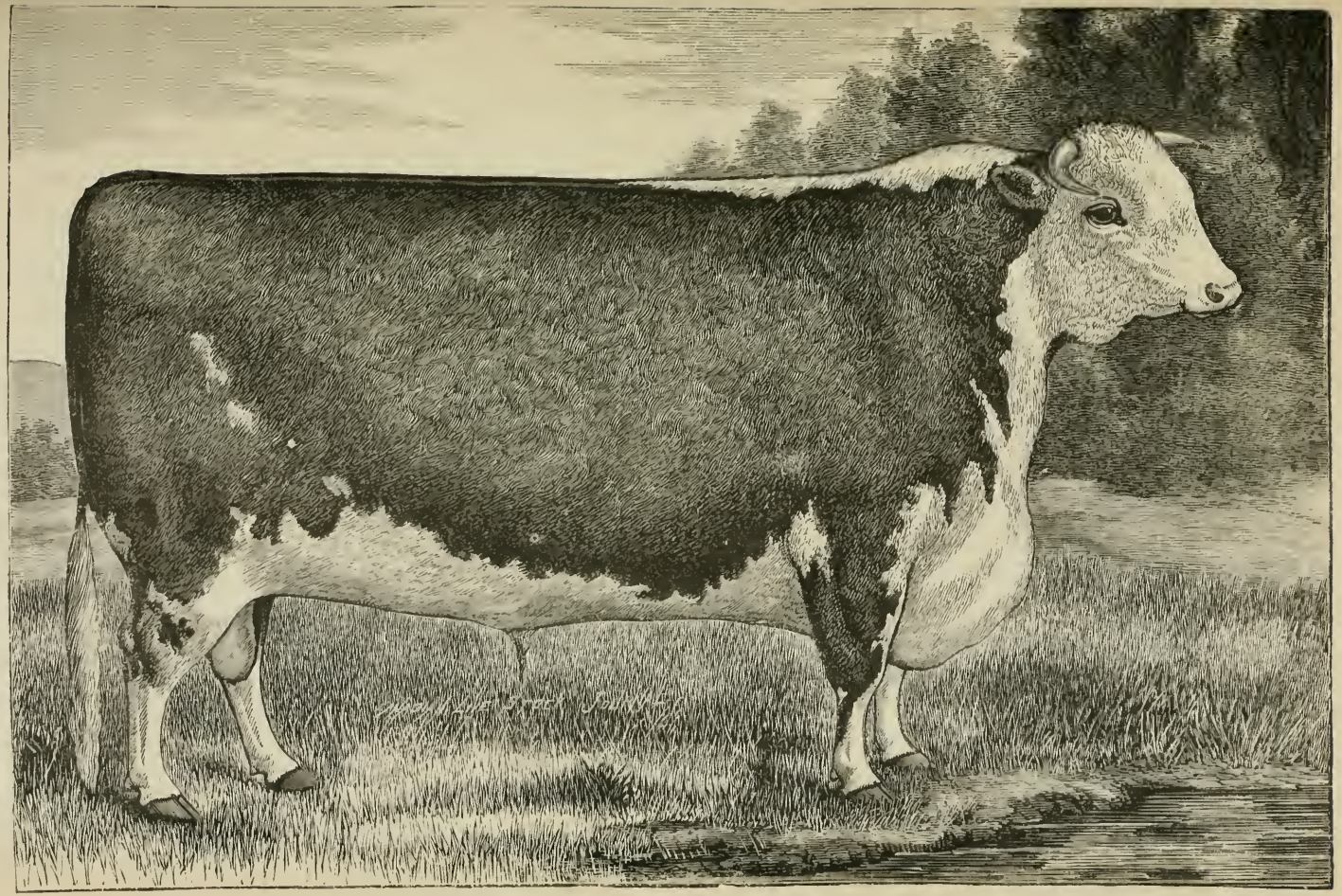
Price, £500.

Rodney (4907) and Coral are the sire and dam of Mr. Taylor's 2nd prize two-year-old bull at the Royal Show at York, 1883.

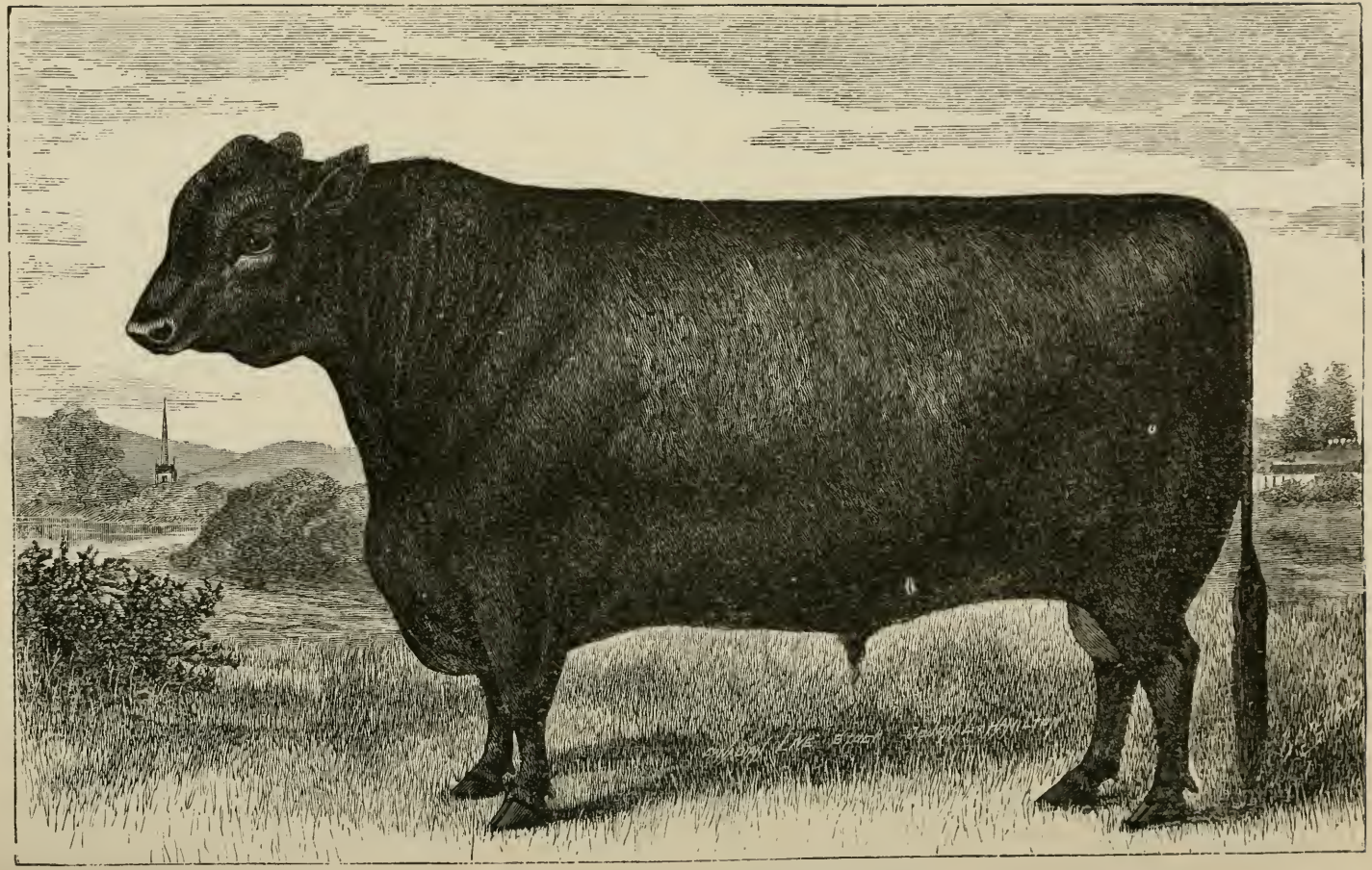
Lord Wilton (4740), called the invincible, is acknowledged the greatest Show Bull and sire of the present day. Winner of 1st prize at the Royal Agricultural Show at Taunton, also at the Bath and West of England, held at Croydon and at Hereford in 1875, besides the champion prize in 1880, 1881, and 1882. He was sold in October last for $20,000 when 11 years old.

He is by Sir Roger (3850), he by Sir Thomas (20), and he by Sir Benjamin (36), bred by Mr. B. Rogers in 1856.

With reference to the Lord Wilton (4740) blood, *The Field* of England, 8th March, 1804, says: "According to general confession there has been only one Hereford known to the present generation of breeders at all comparable to Horace (3877). The Americans are running wild just now after the progeny of both. The sensation created by Horace's stock was equalled at the Royal Show at Derby in 1881, by the extraordinary merit of Lord Wilton's sons and daughters. Mr. Carwardine sold Sir Bartle Frere (6682) for exportation to America for £600. It may fairly be doubted whether there is another animal of any cattle breed at the present day owning such a numerous progeny."



HEREFORD, "CONQUEROR" (7510).



ABERDEEN POLL, "STRATHGLASS" (2357).

ABERDEEN-ANGUS POLL,

STRATHGLASS (2357).

Calved 19th March, 1882; bred by Lord Tweedmouth, Guisachan, Inverness.

		BRED BY
	sire Heir of Glory (1746)	Wm. McCombie, Tillyfour.
dam Witch of Endor (3528)	by Valiant (663)	Wm. McCombie, Easter Skene.
2. d. Mayflower 2d of East Tulloch (3521)	" Emperor of East Tulloch (396)	Sir G. M. Grant.
3. d. Mayflower " (3519)	" King Henry (390)	The Earl of South Esk.
4. d. Bamba (1200).....	" Duke of Wellington (219)	Robt. Walker, Portlethen.
5. d. Bengie (276)	" Stanley of Portlethen (14)....	" "
6. d. Young Duchess 2d (32)	" Porty (50)	" "
7. d. Old Maggie (681)		

Price, £500.

Strathglass was only once exhibited, gaining first prize as a yearling at the Royal Society's Show at York, 1883.

Heir of Glory, his sire, brought 155 guineas, when a yearling, at the Tillyfour sale in 1880.

Paris (1473), Heir of Glory's Sire, was one of the McCombie winning group at Paris in 1878, and 1st prize bull in his class.

Strathglass' dam, Witch of Endor (3528), was also one of the winning Tillyfour group at the Paris International, 1878, gaining the 1st prizes for best and best beef animals.

Strathglass' portrait fronts the first page of Vol. VIII of "The Polled Herd Book."

DEVON.

ROSE'S DUKE.

Calved 7th April, 1883; bred by Walter Farthing, Stowey Court, Bridgewater.

	sire General Colley (1564).	
dam Rose (4903).....	by Croydon Boy (1309).	
2. d. Rosa 2nd (3885).....	" Duke of Devon (1056).	
3. d. Red Rose (3006) . ..	" Royal Duke (918a).	
4. d. Rosa (——)	" Mr. Stranger.	
5. d. Rose (——)	" "	

Price, £45.

Rose's Duke was purchased for the Windsor Herd immediately previous to transfer to the Ontario Experimental Farm,—Mr. Tait, H. M. Commissioner, desiring to pay a compliment.

GALLOWAY.

STANLEY 3RD OF DRUMLANRIG (1793).

Calved 1st January, 1882; bred by Duke of Buccleuch.

		BRED BY
	sire Eskdaill (1559).....	Duke of Buccleuch.
dam Lady Stanley of Drumlanrig (2858)	by Pretender (617)	John Underwood, Crofts.
2. d. Lady Stanley (1670) ..	" Hossack (1319)	John Wallace, Kirkcudbright.
3. d. Jane of Breconhill (3354)	" Emancipation (1318)	John Graham, Lockerbie.
4. d. Rosy of Breconhill (3353)	" Black Jock of Pedder-hill (1316).	Geo. Graham, Riggfoot.

Price, £100.

Eskdaill was 3rd at Castle Douglas as a yearling; his sire, Black Prince of Drumlanrig (546), had a remarkable show-yard career, besides his breeding qualities. He was first as a yearling at Castle Douglas and at Highland Society's Show at Kelso, and won the Highland Society's first prize at Stirling when two-

year-old, and the three-year-old at Inverness in 1874, their gold medal at Glasgow 1875, and Aberdeen in 1876, and the last time at the Dumfries Union show in 1876, when he won 1st.

Lady Stanley was 2nd at Lockerbie, 3rd at H. S. Glasgow, 2nd at Carlisle, and 1st at Dalbeattie in 1875; 1st at Lockerbie, H. S. Show, Aberdeen, Carlisle and Dumfries Union in 1876; 3rd at the Royal of Eng.; Liverpool; 1st and cup at Carlisle and 1st at Dalbeattie in 1877.

Stanley 3rd was 2nd at the Royal of Eng., at York, and 3rd at the Dumfries Union Show in 1883.

AYRSHIRE.

CAMPBELL OF DRUMLANRIG (462).

Calved April, 1882; bred by the Duke of Buccleuch.

sire Kiel of Craigman (148)

dam Myres (319)

Price, £42.

His dam, Myers (319), was 4th in the Ayr Derby of 1874. 1st as a three-year-old at New Cumnock in 1874, and as the same in calf or milk, and 1st as best cow of any age. Also 1st as a three-year-old in milk at Muirkirk in 1874, and 1st as cow of any age and best bred animal. Besides several prizes at Tarbolton in 1872-3-4.

GUERNSEY.

CETYWAYO (37).

Yellow, fawn and white; calved 12th May, 1882; bred by John LePage, St. Saviour's Guernsey.

No. 1 on horn.

sire Presto (14).

BRED BY

dam Princess 2nd by Premier (31) .. ..James LePage, Neuve Maison, Parish of the Catel, Island of Guernsey.

Price £50.

Cetewayo's sire, Presto (14)), won 1st Prizes at the Royal Agricultural Shows in 1881 and 1882.

JERSEY.

"ST. MARY'S BOY" (535).

Solid Grey, switch and tongue black; calved 10th Feb., 1883; bred by E. P. DuFeu, St. Mary's Parish, Jersey Island.

sire Careful Lad (331).

dam Morning Star (759).

Price £45.

This bull is grey in color and all the heifers are fawn, a variety not so desirable to those who breed for uniformity of herd, but thought to be an important feature experimentally for this station.

HOLSTEIN.

"WILLEM 3rd" (290) N. H. B. *Calved March 20th, 1882.*

Bred by J. Bakker, Wierengerward, N. H.

sire, Willem, 82, N. H. B. Dam, Zwaart.

LINCOLN.

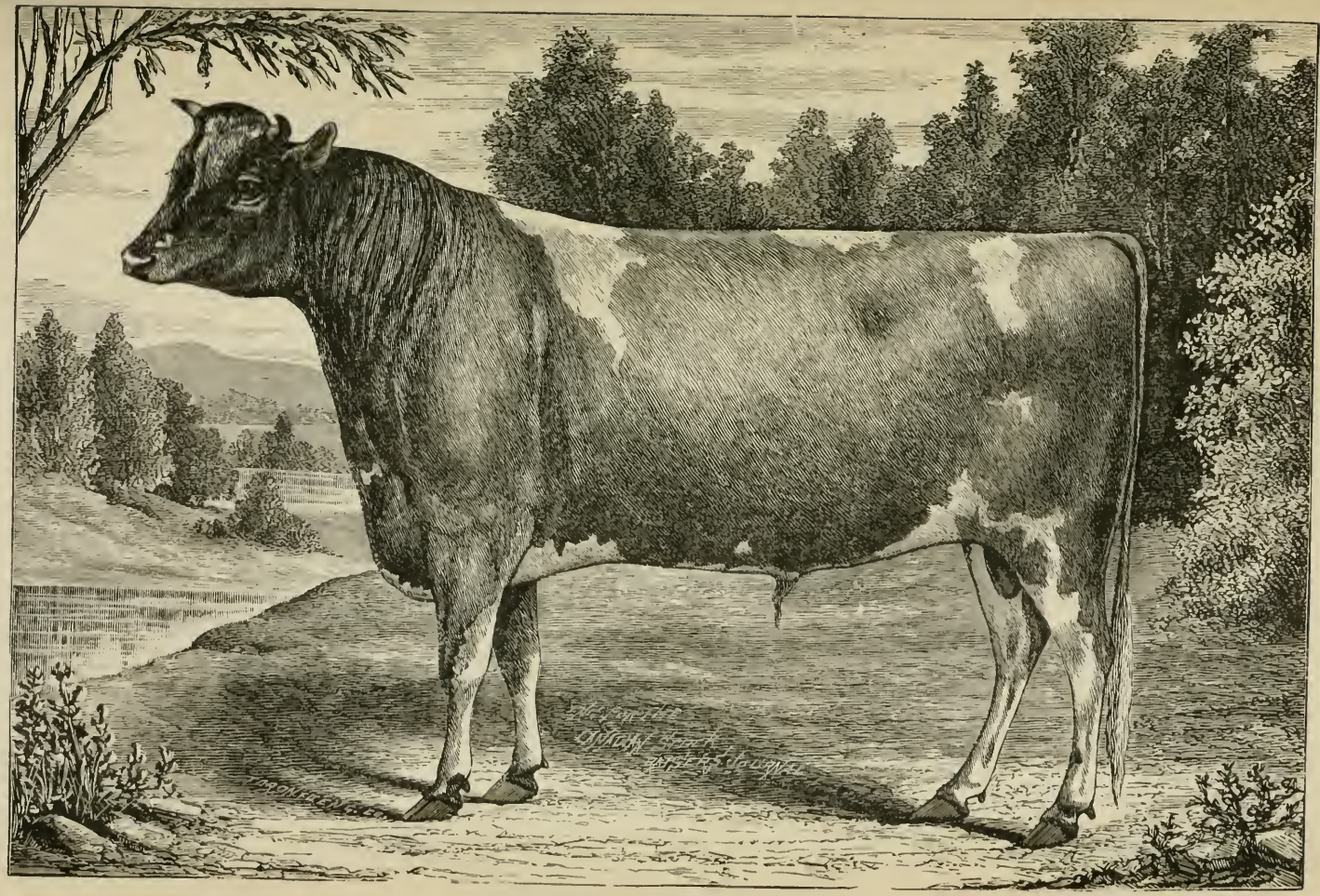
"NOCTON, 1884." *Lambed Spring, 1883.*

Bred by R. Wright, Nocton Heath, Lincoln.

sire " R. Wright.

grand sire " T. Needham.

Price £30.



GUERNSEY, "CETEWAYO" (37).

HIGHLAND BULL.

COTSWOLD.

"Swanwick." *Lambed Spring, 1883.*

Bred by Russell Swanwick, Cirencester, Gloucestershire.
sire Young Carlisle.
g. " Carlisle. First prize ram at the Royal at Carlisle.

Price, £23.

"Gillett, 1884." *Lambed Spring, 1883.*

Bred by T. & S. G. Gillett, Kilkenny, Bampton.
sire Oaklands " John Gillett, late of Oaklands.
dam bred by T. & S. G. Gillett.

Shown with his mother in a pen of five ewes with lambs; took 1st prize for best pen at the Oxfordshire Show in 1883.

Price, £30.

LEICESTER.

"Wallace." *Lambed Spring, 1883.*

Bred by Robt. Wallace, Mauchlin, Ayrshire.
sire "90-Guineas," bred by Messrs. Clark, Old Hamstock Mains.
dam "Old Perth," bred by R. Wallace.
g. sire a £37 ram of the Mellandean strain.
g.g. " the £195 Polwarth Ram.

"90-Guineas" gained third prize at the H. S. Show in Glasgow, and 1st and Roxburgh Medal at Kelso in 1882.

"Old Perth" is dam of shearlings that were 1st at the H. S. Show at Perth in 1879, and second at the same at Glasgow in 1882.

Price, £50.

HIGHLAND.

"Young Victor." *Lambed Spring, 1882.*

Bred by Jas. Craig, Craigdarroch.
sire Old Bowlie " James Craig, Craigdarroch.

"Young Victor" took 1st prize and 1st and medal for best sheep in yard at Ayr, in 1883. Also several other prizes.

Old Bowie is the most famous strain of blood of the breed, and has taken in his time firsts at Ayr as shearling and aged ram.

Price, £10.

CHEVIOT.

"Marshall, 1884." *Lambed Spring, 1883.*

Bred by William Marshall, Merton Mains, Thornhill.
sire " Mr. Scott, Girnwood, Hawick.
dam bred by Mr. Grieve, Branxholme Braes, Roxburghshire.

Price, £10.

OXFORD DOWN.

"Blake, 1884." *Lambed Spring, 1883.*

Bred by A. Brassey, Heythrop Park, Chipping Norton, Oxfordshire.
sire "Tyfield" " A. F. M. Druce.
sire of dam "Royal Birmingham," bred by Mr. Brassey.

"Royal Birmingham is 1st prize shearling of 1876.

Price, £20.

"Brassey, 1884." *Lambed Spring, 1883.*

Bred by A. Brassey, Chipping Norton, Oxfordshire.
sire Royal Derby, 1st prize shearling of 1882.
sire of dam Royal Kilbourn, second prize shearling of 1879.

Price, £20.

HAMPSHIRE DOWN.

"Parsons, 1884." *Lambed Spring, 1882.*

Bred by W. Parsons, West Stratton, Micheldever, England.
grand sire " W. Newton.
Descended from a lamb bred by James Rawlener, Wilton, Salisbury.

He was the *best* of the pen of five ram lambs which took 1st prize at Royal Agricultural Society's Show at Reading, 1882.

Price, £40.

"Wilts, 1884." *Lambed Spring, 1883.*

Bred by W. Parsons, West Stratton, Micheldever.
sire " " "

which was also in prize pen mentioned in notes preceding.

Price, £35.

SHROPS.

"Royal Stamp" (1699). *Lambed Spring, 1882.*

Bred by John Evans, Uffington, Shrewsbury.
sire "Royal Gem" (1024)
dam's " "Bristol Reserve" (144)
g. dam's " "Grand Duke" (620).
g. g. dam's " "Union Jack" (1252).

This ram was let in 1883, to R. Thomas, Esq., for 70 guineas.

Price, £65.

"Monarch." *Lambed Spring, 1883.*

Bred by John Evans, Uffington, Shrewsbury.
sire "Lord Coxeomb" (743).
dam's " "May Duke" (837).
g. dam's " "Royal Taunton" (115).
g. g. dam's " "Cardinal" (53).

Price, £35.

'Allsopp 1884." *Lambed Spring, 1883.*

Bred by Sir Henry Allsopp, Bt. Hindlip Hall, Worcester.
sire "Chisham's No. 8" (376) bred by Lord Chisham.
dam bred by Mr. Smith, Sutton Maddock,—sire "Lothair" (779).
sire's sire "Son of Mansell's No. 8" bred by Lord Chisham.

Sire's dam an R. A. S. E. prize that won in 1879, 1st at Kilbourn, 1st and champion at Manchester, 1st and special at Worcestershire and Malvern, 1st at Worcestershire and Stonebridge in 1881, and 2nd at Worcestershire and Dudley in 1882,—being one in a pen of five at the above.

Price, £10.

SOUTH DOWN.

"Walsingham, 1884." *Lambed Spring, 1882.*

Bred by Lord Walsingham, Merton, Norfolk.

sire a son of "Royal Taunton,"—first prize ram.
dam by a grandson of "Viceroy."

The son of "Royal Taunton" was half brother to the yearling ram sold to George Carew-Gibson for 200 guineas, and great grandson of "Royal Manchester," for which an offer of 500 guineas was refused.

Price, £52 10s.

Woods, 1884." *Lambed Spring, 1883.*

Bred by Lord Walsingham, Merton, Suffolk.

sire—Royal Reading, first prize ram.
dam sister to the Oxford and Royal Bristol first prize yearling ram.

The sire was by the Royal Bristol two-year old prize ram.

Price, £105.

LIST AND PRICES OF IMPORTATIONS.

Cattle.

Short Horns.		
1 Bull	$2,250	
3 Cows	1,900	
		$4,150
Herefords.		
1 Bull	$2,500	
3 Cows	1,285	
		3,785
Aberdeen Polls.		
1 Bull	$2,500	
3 Cows	1,100	
		3,600
Galloways.		
1 Bull	$500	
2 Cows	600	
		1,100
Devons.		
1 Bull	$225	
1 Cow	300	
		525
Ayrshires.		
1 Bull	$210	
4 Cows	650	
		860
Guernseys.		
1 Bull	$250	
2 Cows	350	
		600
Jerseys.		
1 Bull	$225	
3 Cows	675	
		900

Holsteins.		
1 Bull	$750	
3 Cows	750	
		1,500
—33 head.		$17,020

SHEEP.

Lincoln.		
1 Ram	$150	
3 Ewes	150	
		300
Cotswolds.		
2 Rams	$265	
4 Ewes	125	
		390
Leicesters.		
1 Ram	$250	
6 Ewes	250	
		500
Cheviots.		
1 Ram	$50	
2 Ewes	25	
		75
Highland.		
1 Ram	$50	
2 Ewes	25	
		75
Oxford Downs.		
2 Rams	$200	
6 Ewes	300	
		500
Shropshires.		
3 Rams	$550	
20 Ewes	500	
		1,050
Hampshires.		
2 Rams	$375	
6 Ewes	170	
		545
South Downs.		
2 Rams	$785	
3 Ewes	265	
		1,050
		$4,485
Total for 33 Cattle	$17,020	
Total for 69 Sheep	4,485	
		21,505

Expenses applicable to above.

British Railway Freight	$550	
Ship Freight	1,200	
Food on Board Ship	320	
Insurance	200	
Expenses of Purchase, and Management	650	
Quarantine, including food, etc	1,020	
Railway to Guelph	350	
		$4,290
		$25,795

It appears, therefore, that in importing one hundred head of a large variety of animals it is safe to add *one-sixth* more to this total original cost, or, to put the estimate in more detail, we have for:

	Cattle.	Sheep.
Average original cost per head	$515 00	$60 00
Proportion of British expenses	33 00	3 00
Proportion of Shipping	40 00	6 50
Proportion of Quarantine	17 00	.....
	$600 00	$69 50

8.—Sale of Christmas Beef, 17th December, 1884.

Age, Weight and Measurements (in inches), on 5th December, 1884.

Lot.	ANIMAL.	Age in days.	Weight.	Gain per day.	Length of Carcass.	Heart Girth.	Depth through Crops.	Flank Girth.	Paunch Girth.	Thickness through Crops.	Width of Loin.	Length of Quarter.	Height from Ground.				Price and Purchaser.
													Shoulder.	Brisket.	Flank.	Tail.	
	Srorthorn Grades.		Lbs.														
1	"Dudley"	1097	1970	1.80	94	94	34	93	111	24	26	26	59	22	28	60	$121. Stephen Hall, Blenheim, Ont.
2	"Digby"	1005	1820	1.81	87	93	32	90	109	25	25	27	57	21	28	58	$122. H. J. Laurie, Hamilton.
3	"Derby"	1011	1930	1.91	87	97	35	94	107	25	26	26	60	20	29	59	$126. L. O. Barber, Guelph.
4	"Lady Olive"	636	1300	2.05	78	84	29	82	98	22	26	23	50	20	27	53	$81. H. J. Laurie, Hamilton.
	—																
	Aberdeen Poll Grade.																
5	"Aboyne"	903	1700	1.87	84	94	34	87	104	24	25	23	58	21	29	57	$100. —. Allison, Galt.
	—																
	Hereford Grades.																
6	"Huntingdon"	980	1634	1.67	78	92	32	89	103	23	23	25	53	19	26	55	$112. J. Dingle, Hamilton.
7	"Hartford"	780	1630	2.09	83	92	32	87	101	24	24	24	54	18	29	55	$151. C. Satchell, Ottawa.

Cost of Producing these Fat Cattle Per Head.

1st year, including calf value, milk, and all other food, with attendance	$ 39 96
2nd year, food and care	57 77
Four months of third year	20 88
	$118 61
Less profit realized on charging market prices for food grown on farm	42 88
Total actual cost of production	$75 73

Being 4½ cents per pound live weight.

The food consumed consisted of hay, roots, green fodder, bran, peas, corn, oats, oil cake and Thorley Condiment,—averaging during winter of second year,—9 lbs. hay; 25 lbs. of roots; 8 lbs grain, and 2 lbs. of cake daily.

Value.—At exportation price of 6 cents, there would be a cash profit of $24 per head on these cattle, and nearly double this is sometimes realized for Canadian Christmas Beef.

Dogs for Sale.

Six Dogs and one Bitch. Littered November 22nd, 1884.

Sire "Conrad".....bred by R. F. Hunter, Scotland.
Dam Luna..... " "Bob"..... .....bred by Duke of Buccleugh, Scotland.
" Lassie ..... " "Laddie".....bred by H. M. The Queen.

"Conrad" won 1st prize in Toronto, in 1884, and "Bob" gold medal there in 1881.

9.—On Hand for Public Sale, 1885.

We are already in possession of the following young animals, and hope to have as many as thirty head of cattle and sixty sheep for our public sale during the second week of September:—

Shorthorns—One bull and one heifer.
Herefords—Two bulls and one heifer.
Aberdeen Polls—Four bulls.
Ayrshire—One heifer.
Guernsey—Two heifers.
Jersey—One bull and one heifer.
Holstein—One bull.

Send for our sale Catalogue about 1st August.

IV.—EXPERIMENTAL DEPARTMENT.

1.—Feeding of Cattle and Sheep, 1883-84.

Conditions.

1.—Half-bred Shorthorn Steers, averaging exactly twenty-four months at finish.
2.—Equal stable accommodation, management, and grooming.
3.—Similar previous management.
4.—Equalizing of animals in groups.

5.—Weighing of every article of every meal, and water consumed.
6.—Weighing of unconsumed food.
7.—Animals weighed every week.
8.—The changing of every group of cattle to different food every term of twenty-eight days.
9.—The daily record of stable temperature.
10.—All grain ground into rough meal, hay whole, except in cooking, and roots sliced.
11.—Feeding at 7:30 a.m. ; 11:30 a.m. ; 2 p.m. ; 5 p.m. and 8 p.m. daily.
12.—Exercise for half an hour daily.
13.—Rock salt always in manger.

I.—Mixture of Grain in Cattle Feeding.

Results per head during 196 days, with 21 animals, three per group per term; from 3rd November, 1883, to 18th May, 1884.

Term of 28 Days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Rate of Increase.	Food Consumed.					Mean Temperature of Stable.
					Hay.	Roots.	Grain.	Bran.	Water.	
1st	949	1041	92	3.285	249	640	250	126	1259	45°
2nd	1087	1155	68	2.405	251	672	252	126	1130	39°
3rd	1091	1150	59	2.238	250	668	225	126	834	35°
4th	1165	1214	49	1.726	252	674	252	126	777	38°
5th	1177	1221	44	1.56	241	660	251	126	999	40°
6th	1174	1218	44	1.56	247	416	252	125	1011	50°
7th	1338	1420	82	2.89	297	240	333	135	1250	55°
Per head, daily	(1140)	(1202)	(62)	2.238	9.1	20.25	9.25	4.5	37.04	43°

Analysis of Mixture-Feeding.

1. A steer averaging 1,171 lbs. consumed daily $9\frac{1}{10}$ lbs. hay, $20\frac{1}{4}$ lbs. turnips, $4\frac{1}{2}$ lbs; bran, 37 lbs. water, with $9\frac{1}{4}$ lbs. of corn, peas, oats, white barley, and black barley in equal parts by weight = in all $43\frac{1}{4}$ lbs. of fodder and grain daily.

2. This rate of consumption was equal to four per cent. daily of the animal's weight.

3. The highest daily rate of increase was $3\frac{1}{4}$ lbs. fully, the lowest $1\frac{1}{2}$ lbs. fully, and the mean for the whole period was $2\frac{1}{4}$ lbs. nearly.

4. The daily consumption of 37 lbs. water was nearly equal, weight for weight, with the regular food—the highest daily rate of water being 45 lbs., and the lowest 27 lbs. The demand for water was distinctly less during cold and most during warmer weather—turnips being equal.

5. The reduction of turnips to nearly one-third of the usual amount caused the animals to consume twelve per cent. more hay, and twelve per cent more grain.

5. The consumption of turnips, more or less, did not seem to affect that of water to any marked extent. When 9 lbs. turnips were given per day in a mean temperature of 55°, the additional nineteen per cent. of water drank was, by all other comparisons, owing more to temperature than to want of turnips.

7. With the temperature averaging 50° and a ration of 15 lbs. turnips per day, the animals drank about an average quantity of water.

8. But the uncertainty of drawing definite conclusions in what influences animal life is well illustrated in the two examples of the least daily increase of 1.56 lbs., where the consumption of food and water is almost exactly alike, with the exception of roots, and yet the mean temperature of the term varies as much as 10°.

9. The cost of adding one pound to the weight, by this method of feeding, amounts to $8\frac{1}{2}$ cents, charging grain at one cent; hay one half cent; roots one sixth cent; and bran one half cent per lb.

10. The nutritive ratio for the whole period was:—1 : 4 . 68.

II.—Mixture of Grain with Oil Cake, in Cattle Feeding.

Results per head, during 196 days, with 21 animals.

Terms of 28 Days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Rate of Increase.	Food Consumed.						Mean Temperature.
					Hay.	Roots.	Meal.	Oil Cake.	Bran.	Water.	
1st	950	1048	98	3.524	242	638	250	84	126	1235	45°
2nd	1041	1108	67	2.369	251	672	251	84	126	1303	39°
3rd	1155	1209	54	1.928	248	661	224	84	126	950	35°
4th	1150	1192	42	1.050	195	661	236	84	126	945	38°
5th	1214	1267	53	1.920	242	651	248	84	126	916	40°
6th	1221	1277	56	2.010	233	442	261	84	126	1306	50°
7th	1277	1297	20	.702	294	227	263	84	133	1168	55°
Per head, daily	(1144)	(1200)	(56)	1.929	8.7	20.15	8.85	.3	4.51	39.91	——

Analysis of Mixture of Grain with Oil Cake.

11. The average steer, among twenty-one head weighing 1,172 lbs., eat daily $8\frac{7}{10}$ lbs. of hay; $20\frac{1}{7}$ lbs. turnips; $4\frac{1}{2}$ lbs. bran, and $1\frac{3}{4}$ lbs. each of corn, peas, oats and black and white barley, in addition to 3 lbs. of oil cake.

12. Every day, on an average, each animal drank as much as 40 lbs. water—most in the highest mean temperature, with two-thirds ration of turnips, and least during lowest temperature, with full ration of roots.

13. The daily increase, per head, was almost exactly 2 lbs. over the period—being greatest—(as much as $3\frac{1}{2}$ lbs.) during the first term in a temperature of 45°, when more than the average water was drunk, but all other things equal; and least (not $\frac{3}{4}$ lbs.) during the closing term, when the average temperature was highest (55°), and a little more grain and hay were consumed.

14. Twenty-one animals, throughout a period of one hundred and ninety-six days, indicated very clearly that they required five per cent. less hay and fully five per cent. less grain, when 3 lbs. of oil cake per head per day were added to their ration.

15. The greatest quantities of grain and hay were consumed wmnheeore water and fewer roots were used—temperature being considered.

16. The cost of production, by giving oil cake with a mixture of grain, amounted to $11\frac{1}{2}$ cents per pound of the added live weight.

17. The nutritive ratio of such feeding is:— 1 : 4 . 01.

III.—Mixture of Grain with Thorley in Cattle Feeding.

Results per head during 196 days, with 21 animals.

Terms of 28 Days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Rate of Increase.	Food Consumed.						Mean Temperature.
					Hay.	Roots.	Grain.	Thorley.	Bran.	Water.	
1st	982	1088	106	3.756	245	636	243	42	123	1283	45°
2nd	1031	1091	60	2.107	236	669	232	42	124	1065	39°
3rd	1085	1165	80	2.869	250	672	225	42	126	868	35°
4th	1120	1177	57	2.035	220	662	242	42	126	975	38°
5th	1121	1174	53	1.900	242	653	352	42	126	978	40°
6th	1302	1338	36	1.303	248	442	255	42	124	1306	50°
7th	1263	1344	81	2.892	295	235	322	42	135	1113	55°
Per head, daily	(1129)	(1197)	(68)	2.409	8.85	20.25	9.5	1½	4.51	38.71	43°

Analysis of Mixture of Grain with "Thorley," in Cattle Feeding.

18. Seven groups of cattle—three in each group—alternating every twenty-eight days, during a period of one hundred and ninety-six days, from November to May, have given the following record by the consumption daily of $8\frac{8}{10}$ lbs hay; $20\frac{1}{4}$ lbs. turnips; $4\frac{1}{2}$ lbs. bran, and $1\frac{9}{10}$ lbs. each of corn, peas, oats, black barley, and white barley, along with $1\frac{1}{2}$ lbs. of what is called "Thorley's" condiment.

19. The daily rate of increase per head was $2\frac{4}{10}$ lbs.—the extreme averages being $3\frac{3}{4}$ lbs. and $1\frac{1}{3}$ lbs. per day.

20. The greatest increase was during the first term, with a mean temperature of 45°, when somewhat less grain and more than the average water were consumed, and the least increase took place in a mean temperature of 50°, with the consumption of sixteen per cent. more water than the average, and on two-thirds ration of turnips.

21. The consumption of water, throughout the entire period, was $38\frac{3}{4}$ lbs. per head daily—increasing and lessening with the temperature more than with the food—being as much as thirty per cent. less in a mean temperature of 35°, as against 50°.

22. When the average amount of water and one-third ration of roots were used, with forty per cent. more grain and ten per cent. more hay, the daily increase attained nearly 3 lbs., or seventeen per cent. over the mean of all the terms under this experiment.

23 Yet, the greatest amount of turnips with the least grain and least water in the lowest mean temperature, gave results equal to those named in the preceding paragraph.

24. It cost $11\frac{3}{4}$ cents to add one pound to the average animal that weighed 1,163 lbs.

25. The nutritive ratio of this course was:— 1 : 4 . 50.

IV.—Corn in Cattle Feeding.

Result per head during 196 days, with 21 animals.

Terms of 28 days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Rate of Increase.	Food Consumed.					Mean Temperature.
					Hay.	Roots.	Corn.	Bran.	Water.	
1st	965	1045	80	2·839	247	641	250	126	1095	45°
2nd	1006	1073	67	2·380	251	672	252	126	1127	39°
3rd	1019	1077	58	2·077	249	669	224	126	778	35°
4th	1202	1259	57	2·059	251	672	252	126	969	38°
5th	1182	1244	62	2·211	248	656	246	126	712	40°
6th	1246	1303	57	2·029	251	442	262	126	1002	50°
7th	1340	1415	75	2·684	296	234	328	135	1108	55°
Per head, daily	(1137)	(1202)	(65)	2·325	9·15	20·33	9·25	4·5	33·62	43°

Analysis of Corn Feeding.

26. Over a period of 196 days, the average steer of 1,170 lbs., in a batch of twenty-one, consumed daily fully 9 lbs. hay, $20\frac{1}{3}$ lbs. turnips, $4\frac{1}{2}$ lbs. bran, and $9\frac{1}{4}$ lbs. corn; at the same time drinking, on an average, $33\frac{2}{3}$ lbs. water.

27. The daily rate of increase was $2\frac{2}{3}$ lbs., the extremes being $2\frac{8}{10}$, and 2 lbs. fully.

28. During a mean temperature of 43° in a stable, tied up cattle drank more water, weight for weight, than the hay and roots they consumed.

29. The lowest rate of increase was during a mean temperature of 50°. with a two-thirds ration of turnips, and an exact average of corn—the highest rate of increase occurred in a mean temperature of 45°, with a full ration of turnips, and slightly less corn.

30. One-third ration of turnips, with fifteen per cent. more hay and twenty per cent. more corn, in a mean temperature of 55°, gave the second highest rate of increase under this head.

31. During the lowest mean temperature 35°, the animals drank twenty per cent. less water, consumed fourteen per cent. less corn, and gave the third lowest rate of increase —other things being about equal.

32. It cost fully eight cents for every pound added to the live weight of the average cattle beast by this method of feeding.

33. The nutritive ratio for the whole period was:— 1 : 4 . 85.

V.—Peas in Cattle Feeding.

Results per head during 196 days, with 21 animals.

Terms of 28 Days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Rate of Increase.	Food Consumed.					Mean Temperature of Stable.
					Hay.	Roots.	Peas.	Bran.	Water.	
1st.....	974	1032	58	2.071	185	518	195	101	1022	45°
2nd.....	1045	1085	40	1.440	252	639	252	126	1104	39°
3rd.....	1073	1120	47	1.715	251	671	225	126	1002	35°
4th.....	1077	1121	44	1.559	249	664	244	126	955	38°
5th.....	1259	1302	43	1.500	251	662	252	126	1076	40°
6th.....	1244	1263	19	.672	248	442	262	126	1081	50°
7th.....	1303	1367	64	2.297	297	239	333	135	1319	55°
Per head, daily.....	(1140)	(1185)	(45)	1.608	8.82	19.56	9	4.42	38.56	43°

Analysis of Peas.

34. The average steer, weighing 1,163 lbs., consumed daily $8\frac{8}{10}$ lbs. hay, $19\frac{1}{2}$ lbs. turnips, nearly $4\frac{1}{2}$ lbs. bran, and exactly 9 lbs. of peas.

35. Twenty-one animals during 196 days have recorded a daily increase per head by such feeding of $1\frac{6}{10}$ lbs.

36. The highest daily rate was given during the highest temperature, when most water was drunk, when most peas were eaten, and the fewest turnips given; the lowest record occurred immediately previous to the greatest, in a temperature of 50°, with two-thirds ration of turnips, and exactly the average of peas and water.

37. The unusually low increase of two-thirds of a pound per head per day in one of the terms with peas may be accounted for in subsequent notes.

38. During the whole period with peas, the animals were more thirsty and drank water more regularly than any others over the series of experiments, and irrespective of temperature, more than others.

39. The food cost of adding one pound to the live weight by this process was exactly eleven and a-half cents.

40. The feeding ratio was :— 1 : 3 . 84.

VI.—Oats in Cattle Feeding.

Result per head during 196 days, with 21 animals.

Terms of 28 Days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Rate of Increase.	Food Consumed.					Mean Temperature.
					Hay.	Roots.	Oats.	Bran.	Water.	
1st	1029	1111	82	2.098	247	639	249	126	1171	45°
2nd	1048	1076	28	.982	240	645	228	119	825	39°
3rd	1108	1170	62	2.215	251	672	225	126	875	35°
4th	1209	1255	46	1.642	250	671	248	126	874	38°
5th	1192	1236	44	1.560	216	655	246	126	803	40°
6th	1267	1297	30	1.071	241	440	248	122	930	50°
7th	1277	1332	55	1.958	271	236	318	132	1171	55°
Per head, daily	(1161)	(1211)	(50)	1.76	8.8	20.2	8.99	4.45	33.94	43°

Analysis of Oats in Cattle Feeding.

41. In this trial the consumption of food per head per day with an average animal of 1,186 lbs., consisted of $8\frac{8}{10}$ lbs. hay, 20 lbs. turnips, almost $4\frac{1}{2}$ lbs. bran, and 9 lbs. oats.

42. The rate of increase throughout amounted to $1\frac{3}{4}$ lbs., the greatest being during the entry term, when an average of most things were used, and the least being immediately succeeding when a daily rate of 1 lb. was recorded by the use of eight per cent. less oats.

43. Temperature evidently regulated to a large extent the consumption of water, as in other examples, and the average of 34 lbs. per head per day is, however, below the mean.

44. Equal oats and hay by weight in the feeding of store-cattle have therefore made a record of fully $1\frac{3}{4}$ lbs. per head per day, and the amount of turnips in the diet does not appear to materially affect the results.

45. Twenty per cent. more oats and ten per cent. more hay, with one third ration* of roots in a mean temperature of 55° gave one-seventh more daily increase than the average of all the period.

46. It cost ten and a-half cents to add one pound to the live weight of the cattle under this trial.

47. The nutritive ratio was :— 1 : 4 . 61.

* Note.—A full ration of roots in these tests is 25 lbs.

VII.—White Barley in Cattle Feeding.

Results per head during 196 days, with 21 animals.

Terms of 28 days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Rate of Increase.	Food Consumed.					Mean Temperature of Stable.
					Hay.	Roots.	Barley.	Bran.	Water.	
1st.....	915	1006	91	3.262	239	640	251	126	1233	45°
2nd	969	1019	50	1.791	238	665	234	124	949	39°
3rd	1146	1201	55	1.958	252	672	225	126	866	35°
4th.....	1130	1882	52	1.847	247	671	250	126	789	38°
5th.....	1217	1246	29	1.000	251	658	250	125	1002	40°
6th.....	1286	1340	54	1.916	244	408	251	123	1016	50°
7th.....	1311	1349	38	1.375	295	205	336	142	1076	55°
Per head, daily.....	(1140)	(1193)	(53)	1.878	9.01	19.99	9.17	4.55	30.36	43°

Analysis of White Barley in Cattle Feeding.

48. Here, a store steer that averaged 1,166 lbs. during the experiment, consumed daily 9 lbs. hay, 20 lbs. turnips, $4\frac{1}{2}$ lbs. bran, and $9\frac{1}{6}$ lbs. common barley, along with $35\frac{1}{3}$ lbs. of water, in a mean temperature of 43° from November to May.

49. Under these conditions it gained in weight at the rate of 1.88 lbs. daily, ranging from $3\frac{1}{4}$ lbs. per day to exactly 1 lb. as the lowest.

50. The greatest increase occurred in a mean temperature of 45°, with actually 44 lbs. of water, when other things were about equal to the average, and the lowest increase took place in a temperature of 40°, with an average quantity of water and an average of all other conditions.

51. It took 9 lbs. hay (timothy two parts and one part red clover), $23\frac{1}{2}$ lbs. swede turnips, $4\frac{1}{2}$ lbs. wheat bran, and 9 lbs. ground oats, to add 1 lb. to the live weight of a steer averaging 1166 lbs. during a trial of 196 days in a mean temperature of 43°, when also $35\frac{1}{3}$ lbs. of water were drunk daily.

52. The exact average rate of increase was realized in the lowest mean temperature 37°, and when all other things were about equal.

53. It cost ten and one-tenth cents per pound of the added live weight by this experiment.

54. The nutritive ratio was :— 1 : 4 . 79.

VIII.—Black Barley in Cattle Feeding.

Results per head during 196 days, with 21 animals.

Terms of Days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Rate of Increase.	Food Consumed.					Mean Temperature.
					Hay.	Roots.	Barley.	Bran.	Water.	
1st.....	905	969	64	2.262	232	609	219	121	1704	45°
2nd	1111	1146	35	1.279	247	659	236	122	1122	39°
3rd	1076	1130	54	1.922	250	665	225	126	636	35°
4th.....	1170	1217	47	1.678	250	672	251	126	984	38°
5th.....	1255	1286	31	1.130	244	655	248	126	952	40°
6th..... ..	1236	1265	29	1.035	232	396	224	116	937	50°
7th.....	1297	1345	48	1.690	292	221	307	130	1021	55°
Per head, daily.....	(1150)	(1194)	(44)	1.571	8.91	19.78	8.72	4.42	34.50	43°

Analysis.

55. The average steer, in this case, weighed 1,172 lbs., and eat daily almost 9 lbs. of hay; $19\frac{3}{4}$ lbs. turnips; $4\frac{4}{10}$ lbs. bran, and $8\frac{3}{4}$ lbs. black barley.

56. By this, its daily rate of increase was 1·57 lbs. during the whole period of 196 days—the greatest increase or $2\frac{1}{6}$ lbs. being during the first term, when the extraordinary quantity of 61 lbs. of water per day were used in a mean temperature of 45°, along with ten per cent. less barley than the average, considerably fewer turnips, and ten per cent. less hay. How is this?

57. The least daily rate of increase per head per day occurred during the sixth term —1 lb. fully. This may have been influenced by the higher mean temperature of 50°, by the somewhat less grain consumed, and by the two-thirds ration of roots.

58. The water used in this test averaged $34\frac{1}{2}$ lbs. per head per day, and varied considerably, as affected by temperature and amount of food consumed. The small quantity —23 lbs.—during the lowest mean temperature of 35° in January, although accompanied with the second lowest consumption of barley, nevertheless produced an average daily increase of almost 2 lbs. per head.

59. The cost of producing the 1 lb. to the live weight amounts to eleven and three-quarter cents.

60. The nutritive ratio by this test was:—1 : 4 . 78.

IX.—Uncooked Food in Cattle Feeding.

Results per head, for 112 days.

Terms of 56 Days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Rate of Increase.	Food Consumed.					Mean Temperature of Stable.
					Hay.	Roots.	Meal.	Bran.	Water.	
1st.....	884	1036	152	2.705	532	1802	433	316	1817	42°
2nd	1052	1140	88	1.583	533	1779	483	343	1352	36½°
Per head, daily.....	(968)	(1088)	(120)	2.14	9.5	31.97	8.18	5.88	28.3	39¼°

Analysis.

61. In a mean stable temperature of $39\frac{1}{4}^{c}$, during one hundred and twelve days from November to February, the average steer of 1,028 lbs., consumed daily the following food uncooked : $9\frac{1}{2}$ lbs. hay, 32 lbs. turnips, $5\frac{9}{10}$ lbs. bran, and $8\frac{1}{6}$ lbs. mixed meal.

62. Upon these it made an average daily increase of $2\frac{1}{7}$ lbs., the highest rate being during the first term of fifty-six days in a mean temperature of 42° when $32\frac{1}{2}$ lbs. of water were drunk per day, with a little less grain and bran ; and the lowest rate of 1·58 lbs. increase occurred during the second term in a mean temperature of $36\frac{1}{2}°$, with 24 lbs. water daily and more grain and bran, but equal hay and oats.

63. The cost of production by food under these conditions was exactly $9\frac{1}{2}$ cents per pound of animal increase.

64. The nutritive ratio in feeding was :— 1 : 4 . 46.

X.—Cooked Food in Cattle Feeding.

Results per head, for 112 days.

Terms of 56 Days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Increase.	Food Consumed.								Temperature of Stables.
					Meal.	Hay, when		Roots, when		Bran, when		Water.	
						Dry.	Wet.	Dry.	Wet.	Dry.	Wet.		
1st.....	892	1052	159.5	2.842	428	500	968	2561	1761	316	764	1537	42°
2nd.....	1036	1164	127.6	2.279	585	552	1071	2593	1783	343	740	1468	36½°
——	(964)	(1108)	(144)	2.56	9.04	9.45	18.2	46	31.64	5.88	13.43	56.77	39¼°

Analysis.

65. The average steer entered at 964 and came out at 1,108 lbs. in fifty-six days, thus adding 2·56 lbs. per day, upon $9\frac{1}{2}$ lbs. of hay that was cooked by steaming, 46 lbs. turnips also steamed, with $5\frac{9}{10}$ lbs. of bran steamed, in addition to 9 lbs. of a mixture of grain that was not cooked.

66. Hay gained one hundred per cent. by steaming, bran fully more so, and turnips lost seven per cent.

67. Making allowance for temperature, there was practically no difference in the consumption of water during the terms—the average being $26\frac{3}{6}$ lbs. per head per day.

68. The use of 26 per cent. more grain during the second or coldest term, with a little more hay and bran, did not equal the produce of the first term.

69. It cost nine cents per pound for every pound added to the live weight, no allowance being made for expense of cooking.

70. The feeding value by nutritive ratio was :— 1 : 4 . 35.

XI.—Hay, Roots and Bran in Cattle Feeding.

Results per head during 56 days, with 18 animals.

Terms of 28 days.	Weight on Entry.	Weight at Finish.	Total Increase.	Daily Rate of Increase.	Food Consumed.				Mean Temperature of Stable.
					Hay.	Roots.	Bran.	Water.	
1st.....	798·5	862·5	64	2·285	339·5	953·5	219	899·5	45°
2nd.....	862·5	899·6	37	1·317	333·5	999·5	252	613·	39°
Per head, daily....	(830)	(881)	(51)	1·8	12·02	34·87	8·41	25·42	42°

Analysis.

71. In this test the average steer weighing 856 lbs. consumed daily 12 lbs. hay, almost 35 lbs. turnips, and $8\frac{1}{2}$ lbs. bran, with $25\frac{1}{2}$ lbs. water, in a mean temperature of 42°—increasing $1\frac{8}{10}$ pounds per day.

72. The cost to produce the one pound additional live weight was fully 9 cents.

73. Nutritive ratio for whole period equalled :— 1 : 4 . 27.

COMPARISON OF MEAN TEMPERATURE, WITH THE WATER CONSUMED BY CATTLE IN EXPERIMENTS, 1883-4.

Water in lbs. per head, per day.

XII.—Water and Temperature in the Winter Feeding of Cattle.

Terms.	1st. November.	2nd. December.	3rd. January.	4th. February.	5th. March.	6th. April.	7th. May.	Water per Head per Day, by kind of Food. Mean for period.
Temperature—Mean.	45°	39°	35°	38°	40°	50°	55°	
Water per Head per Day.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	
Mixture of grain	44.96	36.78	29.78	27.75	35.68	36.11	44.64	37.04
Mixture, with cake	44.10	46.53	33.93	33.75	32.71	46.64	41.71	39.91
Mixture, with Thorley	45.82	38.03	31.00	34.82	34.93	46.64	39.75	38.71
Corn	39.10	40.25	27.78	34.61	25.43	35.78	39.57	33.62
Pease	36.50	38.00	35.78	34.10	38.43	38.61	47.11	38.56
Oats	38.25	29.46	31.25	31.21	28.68	33.21	41.82	33.94
White Barley	44.03	33.89	30.93	28.18	35.78	36.28	38.43	35.36
Black Barley	60.85	40.07	22.71	35.14	34.00	33.46	36.46	34.50
Uncooked	32.43	24.14						
Cooked	27.43	26.21						
Hay, Roots and Bran	28.89	21.89						
Water—Means per head per day for all foods	44.20	37.87	30.39	32.44	33.20	38.34	41.18	(36.6 lbs.)

Analysis.

74. The consumption of water by a two-year old fattening steer from November to May, is evidently regulated much more by the temperature of the stable than by character of food.

75. During the whole period of one hundred and ninety-six days the mixture of grain with oil-cake used most water, practically 40 lbs. per head, per day; the mixture with Thorley's condiment is second, peas third, the mixture itself fourth—and nearest the average of the whole (37 lbs.); white barley fifth; black barley sixth; oats seventh, and corn the least of any, about $33\frac{1}{2}$ lbs.

76. It seems somewhat contradictory that the animals on cooked food took more water than those receiving uncooked, and that when hay, roots, and bran alone, formed a ration, they did not consume more than 22 lbs. of water per head per day.

77. In the case of grain feeding the extremes of water used were 61 lbs. per head per day in November, with black barley, and the same ration in January has the minimum of $22\frac{3}{4}$ lbs.

78. The comparison of temperature with water consumed is illustrated in diagram herewith; there is a clear parallelism in the two lines from November through the whole winter to May.

79. In November the mean temperature was 45°, and water consumed $44\frac{1}{5}$ lbs; in December 39° and 38 lbs.; in January, 35° and $30\frac{1}{3}$ lbs., thus far very close agreement; in February, 38° and $32\frac{1}{2}$ lbs.; in March 40° and $33\frac{1}{5}$ lbs.; middle stage which though wider is yet in companionship; and in April, we have 50° with $38\frac{1}{3}$ lbs., and 55° and $41\frac{1}{3}$ lbs. for May. While the greatest consumption of water does not exactly follow the highest temperature, as comparing November and December against April and May, we have to remember that upon the great change from pasture to stall feeding in the fall the animals would require more water irrespective of temperature, than they did after lengthened habituation to house and food, as in April and May.

XIII.—Comparative Results in Cattle Feeding.

Food.	Average weight of steers during experiment.	Daily Rate of Increase.	Cost of adding 1 lb. to live weight.
	lbs.	lbs.	cts.
Mixture of Grain	1171	$2\frac{1}{4}$	$8\frac{1}{2}$
Mixture with Cake	1172	2	$11\frac{1}{2}$
Mixture with Thorley	1163	$2\frac{2}{5}$	$11\frac{3}{4}$
Corn	1170	$2\frac{1}{3}$	8
Peas	1163	$1\frac{3}{5}$	$11\frac{1}{2}$
Oats	1186	$1\frac{3}{4}$	$10\frac{1}{2}$
W. Barley	1166	$1\frac{9}{10}$	$10\frac{1}{10}$
B. Barley	1172	$1\frac{3}{5}$	$11\frac{3}{4}$
Hay, Roots and Bran	1028	$2\frac{1}{7}$	$9\frac{1}{2}$
Uncooked	1108	$2\frac{3}{5}$	9
Cooked	856	$1\frac{4}{5}$	9
	1122	2	10

80. For rapid production, irrespective of cost, in the winter feeding of cattle, we have then (1) uncooked food, (2) mixture of grain with Thorley, (3) corn, (4) the mixture itself followed by (5) hay, roots and bran, (6) mixture of grain with cake, (7) white barley, (8) cooked food, (9) oats and peas and black barley equal.

81. For rapid and cheap production combined, corn is decidedly ahead; then the mixture of grain, followed by uncooked food, and hay, roots, bran; all the others are above the average, both in cost of production and slow rate of production.

82. The grand average of daily rate of increase and cost of production is 2 lbs. at ten cents per pound.

83. The nutritive ratio for the whole series equals about:— 1 : 4 . 46.

XIV.—Maturing of Shorthorn Grades.

Shorthorn Grade Steers, on 15th July, 1884.

Name and Birth-Day.	Age in days.	Heart Girth.	Weight. lbs.	Daily Rate of Increase.
		ft. in.		lbs.
Dudley, 15th December, 1881.....	942	7 5	1,730	1·84
Derby, 16th March, 1882.....	859	7 6	1,696	1·97
Digby, 16th March, 1882....	851	7 3	1,660	1·95
	884	7 5	1,695	1·92

Analysis.

84. The cross of the shorthorn bull with the grade cow (a very indefinite thing) of Ontario, properly attended to from beginning, and pushed all through, weighs 1,700 lbs. when 884 days old— two years and five months.

85. The daily rate of increase per head has been almost two pounds on an average.

86. Feeding since weaning has been,—peas, corn, oats, bran, cake, hay, roots and green fodders, in quantities as required.

87. These animals are in competition with the Hereford and Aberdeen Angus Poll grades, elsewhere noted, and should be exhibited at shows this year, as well as at the Agricultural and Arts Christmas Show, at Guelph.

XV.—The Maturing of Hereford Grades.

Hereford Grade Steers, on 15th July, 1884.

Name and Birth-Day.	Age in days.	Heart Girth.	Weight lbs.	Daily Rate of Increase.
		ft. in.		
Huntington, 9th April, 1882.....	827	7 4	1,560	1·88
Heathfield, 6th October, 1882.....	647	7 1	1,505	2·34
Hartford, 28th October, 1882	625	7 0	1,459	2·33
	700	7 2	1,508	2·18

Analysis.

88. These are the first cross between a Hereford bull and half-bred Shorthorn grade cow, and are exactly 700 days old, on an average to-day, 15th July, 1884.

89. The average animal weighs 1,508 lbs., which is equal to $2\frac{1}{6}$ lbs. per day, including birth weight, as in the other cases.

90. Food and management have been exactly similar to the Shorthorn and Aberdeen Angus Poll grade steers, with which they are in competition.

XVI.—The Maturing of Aberdeen Angus Poll Grades.

Aberdeen Angus Poll Grade Steers on 15th July, 1884.

Name and Birth-Day.	Age in days.	Heart Girth.	Weight. lbs.	Daily Rate of Increase.
		ft. in.		lbs.
Aberdeen, 24th June, 1882	751	7 4	1,625	2.16
Aboyne, 27th June, 1882	748	7 4	1,570	2.10
Abernethy, 2nd August, 1882.....	712	7 4	1,600	2.25
	737	7 4	1,598	2.17

Analysis.

91. These Aberdeen Angus Poll grade steers, bred similarly to the Hereford grades are on an average exactly two years old to-day, 15th July, 1884.

92. The average weight of 1,600 lbs. gives a daily rate of increase of $2\frac{1}{6}$ lbs. per head.

XVII.—Oats and Hay in Sheep Feeding.

Results per head, per day, with four head for fifteen weeks, beginning 10th Nov., 1883.

Food Consumed.			Daily Increase.	Weekly Increase.	Weight of average animal at finish.
Oats.	Hay.	Roots.			
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
$1\frac{3}{4}$	$2\frac{2}{3}$	$1\frac{1}{3}$	.372	2.60	143

93. The sheep in this test, and all the others hereto noted, are Oxford Downs and Shrops grade wether lambs, dropped on an average in March, 1883, and, with the exception of the high and low feeding, were alternated to the different foods in pens, as described.

94. The average wether lamb receiving per day $1\frac{3}{4}$ lbs. oats; $2\frac{2}{3}$ lbs. clover hay, and $1\frac{1}{3}$ lbs. turnips, gave a daily average increase of fully $\frac{1}{3}$ of a pound, at a cost of nine cents per pound to the added weight of the animal.

XVIII.—Peas and Hay in Sheep Feeding.

Results per head, per day, with four head for fifteen weeks.

Food Consumed.			Daily Increase.	Weekly Increase.	Weight of average animal at finish.
Peas.	Hay.	Roots.			
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
$1\frac{1}{2}$	$2\frac{1}{2}$	$1\frac{1}{10}$	.25	1.75	$123\frac{1}{4}$

95. In this example the average wether lamb consumed fully $1\frac{1}{2}$ lbs. of peas, nearly $2\frac{1}{2}$ lbs. hay, and $1\frac{1}{10}$ lbs. turnips per day, and increased in live weight at the rate of $\frac{1}{4}$ lb. per day; cost twelve cents per pound of added weight.

XIX.—Beans and Hay in Sheep Feeding.

Results per head, per day, with four head, for fifteen weeks.

Food Consumed.			Daily Increase.	Weekly Increase.	Weight of average animal at finish.
Beans.	Hay.	Roots.			
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
$1\frac{1}{8}$	$2\frac{7}{10}$	$1\frac{1}{4}$	.136	.952	117

96. The daily consumption by this ration was $1\frac{1}{8}$ lbs. beans, $2\frac{7}{10}$ lbs. hay, and $1\frac{1}{4}$ lbs. turnips, and the increase to live weight scarcely 1 lb. per week, which makes a cost of nineteen cents to produce every pound added to the live weight of the average wether lamb.

XX.—Low Feeding with Sheep.

Results per head, per day, with four head for fifteen weeks.

Food Consumed.			Daily Increase.	Weekly Increase.	Weight of average animal at Finish.
Hay.	Pea Straw.	Roots.			
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
$2\frac{1}{2}$	1	4	·9	·63	$111\frac{1}{2}$

97. Upon a daily ration of $2\frac{1}{2}$ lbs. clover hay, 1 lb. pea straw, and 4 lbs. turnips, the average wether lamb increased in weight at the rate of nearly $\frac{2}{3}$ of a pound per week, and the cost of producing one pound to live weight amounted to twenty-two cents.

XXI.—High Feeding of Sheep.

Results per head, per day, with four head for fifteen weeks.

Food Consumed.								Daily Increase.	Weekly Increase.	Weight of average animal at Finish.
Oats.	Peas.	Beans.	Bran.	Hay.	Roots.	Oil Cake.	Thorley.			
lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
·507	·354	·101	·601	1·992	1·269	·27	·12	·2	1·4	125

98. The food above enumerated is the daily ration as consumed by the average wether lamb, upon which it increased in weight at the rate of $\frac{1}{5}$ of a pound per day. Cost of production, twelve and one-half cents per pound.

XXII.—Comparative Results in Sheep Feeding.

Wether Lambs.

——	Weekly Increase per head.	Weight at Finish.	Cost per lb.
	lbs.	lbs.	cts.
Oats and hay	2·60	143	9
Peas and hay	1·75	124	12
Beans and hay	·95	117	19
Low feeding	·63	112	22
High feeding	1·40	125	12½

Analysis.

99. The rapid and cheap production of mutton in winter has been attained best by the use of oats and hay, and second by peas and hay; this places six wether lambs as equivalent to one two year old steer. The average of these two only distinct ordinary forms of feeding sheep in this test equals ⅓ of a pound per head, per day, and ten and one-half cents for the added pound in weight.

100. Beans do not seem to act as profitable grain for sheep, as the rate of growth of the average wether is little over half, and the cost of production is double that of peas.

101. That poor feeding is expense feeding is well illustrated here; not one-third the ordinary rate of progress, and twice the cost of production, must be very much the position of those who practise what they consider economy.

102. The case of what is called "high feeding," although apparently good in results is yet not equal to moderate management of lambs, which can evidently be expensively fed for their age, and even kept back by a high pressure process.

XXIII.—The Sale of Forty Head of Winter-Fed Cattle.

103. The cattle handled during the winter of 1883-4, in connection with the foregoing experiments, were sold to A. Goodfellow, of Guelph, for shipment to Britain, on 15th June last.

104. They averaged 1,355 lbs., and fetched six and one-half cents, thus realizing $3,523. In this, allowance is not made for six light weights sold to a local butcher.

105. The forty head of store steers, averaged 931 lbs., and cost when purchased in middle of October, five cents per pound, or in all $1,862. The very important question now is:

How did they pay?

106. The method of the Ordinary Farmer is:

Cost of forty store cattle, $46.55	$1,862
Sold same for $88 a head	3,523
Balance	$1,661

Or $41.45 of profit per head. Attendance and bedding to balance manure.

107. That of the Moderately Advanced Farmer is:

Cost of forty store cattle	$1,862
Market cost of grain fed to cattle, etc., $21 per head	840
Total cost	$2,702
Sold cattle for	3,523
Cash profit	$821
Add value of 300 loads of manure at $1	300
	$1,121

Or a profit of $28 per head.

108. The system of debiting and crediting on the part of the Science and Practice man is:

Cost of store cattle		$1,862
Cost of food consumed		1,696
		$3,558
Attendance	$265	
Bedding	84	$349
Total actual cost of production		$3,907
Sold cattle for		3,523
Apparent deficit		$384
Value of manure calculated upon chemical and experimental data..		1,017
Balance		$633

Or a profit of $16 per head.

109. The method of The Ontario Experimental Farm is as follows:

Cost of store cattle		$1,862
Market cost of food and bedding	$1,780	
Less profit on market price	850	$930
Attendance		265
		$3,057
Sold for		3,523
Actual cash profit		$466
Credit 300 loads manure at $2.50		750
Balance		$1,216

Or a profit of $30 per head.

110. The mean of all these methods of calculation is $29 per head.

XXIV.—The Influence of Food on Wool.

Ontario Agricultural College,
July 4th, 1884.

The Honourable A. M. Ross,
Commissioner of Agriculture.

Sir,—Two years ago at Professor Brown's suggestion I examined the wool of several varieties of sheep for the purpose of estimating the relative and absolute diameter of the fibres of each variety as well as the number of serrations to the inch in each. I am led to believe that since the time of Youatt these were the first systematic measurements published, and therefore, are of interest, apart from their direct practical value, as indicating the changes in the quality of wool which have occurred during a definite period during which the various breeds have been carefully tended and improved.

It was my intention to follow up this line of observation, by examining wools from the various breeds under different conditions, but other work prevented my carrying on any observations until last winter, when I requested Professor Brown to allow me to test the influence of food on the wool. With his usual kindness and willingness to accommodate, he placed at my disposal eight sheep, six Shropshire grades and two French Merino ewes. These were divided into two groups, three Shropshire grades and one Merino being in each, and of these groups one was subjected to "high" feeding and the other to "low." At the commencement of the experiment wool was clipped as short as possible from the shoulder of each subject, carefully labelled, and kept for future measurement. The experiment was commenced on November 22nd, 1883, and continued until April 30th, 1884, thus extending over a period of 161 days. During the progress of the experiment, by an unfortunate and annoying mistake of certain of the students, the grades were shorn, and were thus thrown out of the experiment, leaving only the two Merinoes to be observed.

During this time, then, one Merino was fed upon clover-hay, pea-straw, roots, pea-meal, oats, bran, oil-cake, beans, and Thorley's cattle food; the other on clover-hay, pea-straw, and roots. The former diet is indicated hereafter, by "high-feeding," the latter by "low-feeding." On April 30th a small sample of wool was again clipped as closely as possible from the shoulder of each, and reserved for measurement, and shortly afterwards both ewes were shorn, the clip being carefully weighed.

Perhaps it may be as well to define certain terms to be used hereafter. The distinguishing feature between wool and hair is the presence in the former of a more or less evident curl or "kink," produced by the individual fibres being wavy, the sinuations of one fibre fitting into those of the fibres in front of and behind it. These are usually referred to as the "*spirals*," a term, however, not strictly applicable, "*sinuations*" being preferable. By the microscope the "*diameter*" is ascertained, a term sufficiently common to require no further comment. But under the magnifying power of the instrument it is further seen that the surface of each fibre is covered with numerous close set scales, overlying each other like the shingles on a roof, their uncovered edges giving the fibre a more or less transversely striated appearance. These are the "*imbrications*," or "*serrations*."

The following table will give a condensed view of the result of the measurements made upon the four specimens of wool. It may be mentioned that the figures given are the average of a number of measurements in each case, since there is always a slight variation to be found in a number of fibres, very noticeable in the diameter and the imbrications, so that in the case of these two particulars, a slight difference only will not be sufficient to base distinctions upon. In fact, the same fibre at different points of its length will exhibit wide differences in its diameter.

I.—Low Feeding.

Time.	Length of Clip in inches.	Sinuations to inch.	Diameter.*	Imbrications to inch.
At commencement of experiment	$1\frac{7}{16}$	16	965	2464
At close of experiment	2	13	878	2387

Weight of entire clip at close of experiment..... .....13 lbs.

II.—High Feeding.

Time.	Length of Clip in inches.	Sinuations to inch.	Diameter.*	Imbrications to inch.
At commencement of experiment	$1\frac{1}{2}$	16	1000	2324
At close of experiment	$2\frac{5}{16}$	16	1044	2348

Weight of entire clip at close of experiment.....17 lbs.

* The figures given under the head of Diameter represent the number of fibres which could be placed side by side in the space of an inch. Accordingly the average diameters of the fibres at the commencement and close of the high feeding were respectively 1/1000 and 1/1044 of an inch.

To compare in the first place the two sheep at the commencement of the experiment. Both were taken from pasture for the experiment, and were therefore under similar conditions. The length of clip of the one chosen for low-feeding was slightly less, the sinuations were the same, the diameter was slightly greater, and the imbrications slightly more numerous. At the close of the experiment the wool of the high-feeding sheep is $\frac{1}{4}$ inch longer than that of the other, the clip is four pounds greater weight, there are more sinuations, and a less diameter, but the number of imbrications is about the same.

The most important comparison is to be drawn between the same sheep at the beginning and end of each experiment. This may perhaps be best expressed by a table, in which loss is expressed by the sign of subtraction.

Experiment.	Length of Clip.	Sinuations.	Diameter.	Imbrications.
Low feeding.....	$\frac{9}{16}$	— 3	— 87	— 77
High feeding	$\frac{13}{16}$	0	0	0

It will thus be seen that even in the short space of 161 days, the quality as well as the quantity of the wool has very appreciably deteriorated by poor feeding, and it will also be seen that good pasturage is quite as good for the quality of the wool as the most nutritious foods fed to a stalled sheep.

I am pleased to see that the measurements I have made this year correspond very closely with those made two years ago, I have now made some sixty measurements of the diameter and number of serrations of Merino wool, and as a result of the same it may be stated that good Merino wool in this part of the country will give 1,000 fibres to the inch, and an inch of each fibre will possess 2,300 imbrications.

It may be interesting to compare the measurements of our Merinoes with those from other localities. Youatt in 1840 gives as the diameter of Merino wool 750. Dr. Manly Miles, in his work on "Stock Breeding," published last year, gives a number of measurements of various breeds from different localities. The following are the measurements he gives for Merino wools:

Merino ram	 1212	....	from	flock of E. Hammond, Vermont.
"	 1186	....	"	"
"	 1185	....	"	"
Merino ewe	 1275	....	"	"
"	 1183	....	"	"
"	 1138	....	"	"
"	 1223	....	"	"
"	 1274	....	"	"
Merino ram	 1164	....	from	Lapeer, Michigan.
" ewe	 1064	....	"	"
" "	 1164	....	"	"
" "	 1023	....	"	"
" "	 1022	....	"	"
Merino ewe	 1199	....	"	Melbourne, Victoria, Australia.
"	 1230	....	"	"
"	 1173	....	"	Victoria, Australia.
"	 1500	....	"	"
"	 1376	....	"	"
"	 1079	....	"	"
"	 1266	....	"	New South Wales, Australia.
"	 1325	....	"	Buenos Ayres.
"	 1180	....	"	Argentine Republic.
"	 1334	....	"	"
"	 1184	....	"	"
"	 1208	....	"	"
"	 1450	....	"	"
Rambouillet	 1035	....	"	"
"	 1062	....	"	"
"	 1150	....	"	"

It will be noticed from this list that all the measurements (mine included), indicate a much greater fineness of wool than do Youatt's measurements. Miles says with regard to this:—"As these samples, from widely different localities, are, without exception, much finer than the specimens examined by Mr. Youatt, we may safely attribute the change to the same causes that have produced the modifications of form and feeding qualities that characterize the improved breeds."

Taking the average of all the measurements from the one country, and assuming that by Merino in the list is meant the Spanish breed we get the following:—

Average of	Vermont wools	1209
"	" Michigan "	1087
"	" Australia "	1260
"	" Argentine Republic wools	1280
"	" French Merino from Argentine Republic	1062
"	" " " O. A. C	1000

From this it will be seen that the O. A. C. French Merino is almost as good as that from the Argentine Republic, there being only a slight advantage in favour of the latter. On comparing the Spanish Merinoes, however, one finds that although the Vermont, Australian, and Argentine Republic specimens are very close, those from Michigan are considerably thicker. It is stated that the colder the climate, the finer will be the wool. Here we see that the wools from the warmer climates are the thinner. How is this to be explained?

I believe the explanation is to be found in the influence of the food. It has been pointed out above that good pasture is as efficaceous in producing fine wool as the richest of what may be termed artificial fodders. In our climate it is only during a portion of the year that the flocks can be at pasture; during the winter months they feed on less nutritious substances, which will diminish the quality of the wool. In the Argentine Republic and Australia, on the other hand, the flocks are on the "run" during the entire year, and are thus in almost constant possession of good nutritious food. As regards the Argentine Republic, Darwin* says: "The plain here looked like that around Buenos Ayres; the turf being short and bright green, with beds of clover and thistles, and with bizcacha holes. I was very much struck with the marked change in the aspect of the country after having crossed the Salado. From coarse herbage we passed on to a carpet of fine green verdure." In Australia the circumstances are apparently not so favourable, but still, to quote Randall:† "Its vast plains, occasionally highly fertile, but more usually only detached spots, afford pasture throughout the year."

One may conclude from these facts that the food has a greater influence on the wool than the climate, and that the greater fineness of the wool in the south—contrary to what one would expect—is owing to the greater length of time spent on the pasture in those localities than in the north.

With regard to the measurements of the Vermont sheep, which are only slightly below those from Australia, nothing can be said, since no particulars regarding their mode of management are given. The fact of our own French Merinoes approaching so closely to those of the Argentine Republic also requires some explanation which, however, is not hard to find. Our sheep have had good care, and in addition have probably been influenced by the temperature, so that it is allowable to conclude that had the climate influences been the same in both cases, a much greater difference would have been noticed. And further, it is to be noticed that although the "pasture" wool and the "high feeding" wool are as good as the South American wool, yet the "low feeding" wool is very much inferior

The inferences to be drawn from the above observations are briefly as follows:—

(1) The nature of the fodder has a manifest influence on the quality of the wool.

(2) The influence of food on wool is greater than that of climate.

(3) Pasture is equal to the most nutritious food in producing wools of good quality.

(4) Sheep that can pasture all the year round will, as a rule, produce better wool than those which on account of severe weather require to be fed in a pen during part of the year.

I remain, Sir,

Your obedient servant,

J. Playfair McMurrich,

Professor of Biology and Horticulture.

* Darwin. Voyage of H. M. S. *Beagle*.

† Randall's Sheep-Husbandry, with an account of the different breeds, etc., 1860.

XXV.—General Observations.

The making of prime beef for the British market is one peculiarly suitable to Ontario. The decided character of winter enables farmers to calculate very accurately, both as to number of head, food required, and results as to animal increase. The grain and fodder crops of the Province are also profuse and cheap, and, as generally understood, excellently adapted to the production of beef. It requires no science to know that a mixture of all or nearly all the crops of the field, is a good thing for cattle life. Experience is plentiful amongst us on this subject, and yet we do not know much about the effects of special foods, or certain combinations of them, under precisely similar conditions. I desire very particularly to call the attention of our farmers and feeders to some very marked indications of animal growth in our experiments during the past winter. I shall premise that the reader has carefully studied the notes and tables of this report; if not, he cannot go with me so well into these general observations, few as they may be.

As a practical farmer generally does then, we make a mixture of equal parts of ground peas, oats, barley and corn, along with the usual quantity of good hay—two-thirds timothy and one-third red clover—weight for weight with the grain, and then the weight of these three makes up the quantity of turnips that go to the daily ration of a steer put up in the fall to be finished for the market when two years old, the following spring. The animal eats, drinks, sleeps, chews the cud, voids, grows, and is groomed and exercised; that is all, apparently. Such then was our standard ration and management to which we were to refer all other forms of feeding. At the end of the long series of tests, this standard gave the *second best* results in what everybody aims at—rapid growth and cheap production. Second among eleven, and why not first?

The comparative standing, chemically, of the various rations used is this:—

Comparative Chemical Feeding positions of the various rations used.

Highest	1.—Peas: nutritive ratio	1:3·84
	2.—Mixture with oil cake, ratio	1:4·01
	3.—Hay, roots, and bran "	1:4·27
	4.—Cooked "	1:4·35
	5.—Uncooked "	1:4·46
	6.—Mixture with Thorley "	1:4·50
	7.—Oats "	1:4·61
	8.—Mixture "	1:4·68
	9.—Black barley "	1:4·78
	10.—White barley "	1:4·79
Lowest	11.—Corn "	1:4·85
	Mean	1:4·46

In the ration, of which peas formed the bulk of grain, the feeding value was *lowered* by admixture with the other ingredients; in all other cases the feeding standard, or nutritive ratio, was *raised;* peas stand as high as 1:2·7 by itself, nearly equal, indeed, to linseed cake. Remembering this, it will now be noticed from the list that our standard mixture is only eighth place chemically, and yet it gave the second best results in cattle feeding. We could discourse at considerable length on several points of this enquiry, such as rapid production, irrespective of cost; but it is desirable to confine what are notes only, to the real practical aims of the feeder—rapid and cheap production.

The first comparision with our standard should be made with what coarse grain Ontario gives us well for our purpose,—peas, barley, and oats.

Though lowered in nutritive value by mixing with hay, roots and bran, the peas ration is yet very much higher chemically than any of the others, and accordingly, we would expect corresponding results in animal increase, if not in cheapness. It does not do so, however, and thus we meet with one of the puzzles that troubles the scientific student. This experimental station has, in previous years, shewn that peas take a high posi-

tion in animal feeding—and we must not forget this—but now the record is much lower; we want more than $1\frac{3}{5}$ lbs. per head per day, and a less cost than $11\frac{1}{2}$ cents per pound. We want fully 2 lbs. and less than 9 cents.

The two kinds of barley have made an even record, being, for all practical purposes, equal to each other, and their average is very little under that of oats. Oats, therefore, have taken their proper place, when chemically considered, in relation to barley.

Corn (Maize), as the prominent coarse grain of the United States, is not, chemically, of very high standing, as by itself the nutritive ratio is only 1:8·3, and although in our mixing of it with hay, roots and bran, it has been raised to 1:4·84, this position is still the *lowest of all the list.*

When, therefore, we have the most distinct evidence, by twenty-one head of cattle throughout seven months, that corn, as a regulating portion of a ration, has given in cheap and rapid production, no less than twenty-five per cent. better results than the average of all the others, and ten per cent. better than the best of the others, a fair judgment can be made as to its value in the winter feeding of cattle, irrespective of any chemistry. Why is it? It is high in *digestible* organic substances, therefore, low in indigestible; and it is also high in digestible fat. If these experiments stand as a correct guide, it would pay to feed corn at seventy cents per bushel as against peas, oats and barley at an average of fifty-six cents. It is worth noting that in the use of corn very much less water was consumed throughout the whole test, almost ten per cent. less than the mean of the others.

It is not, after all, more the cost of the food than its chemical standing that regulates the cost of producing beef?

If a man had no grain to spare, but plenty hay and turnip, with considerable bran from his own grists, it appears by these notes, that he could turn out steers at less cost and a greater daily rate of increase than the average of those who feed barley, oats and peas. This is not the first time the Ontario Experimental Farm has drawn attention to the rapid and cheap growth of *young* store cattle upon such a diet. Now there are several points here that are really important:—go back to chapter XI and note that the animals were the youngest of the lot—weighing only 850 lbs.—that therefore, having bone and muscle to build, they got just the kind of food to do this, namely, hay, roots and bran—from which also they obtained no less than a feeding ratio of 1:4·27—the third highest among the eleven. That the like things would finish an older cattle beast as well and as fast as certain grain, does not follow; but clearly these experiments are an important indication as to the economical feeding—not fattening necessarily—of young store cattle. Necessarily, with as much as 35 lbs. turnips per head per day, the water used was low, although it might be judged that as much as $8\frac{1}{2}$ lbs. bran and 12 lbs. hay—which were not drenched—would make the animals drink more than $25\frac{1}{2}$ lbs.

The point between cooked and uncooked food is not a very large one; there is less increase by cooking, it costs more, and is likely to make a more tender travelling animal.

When our standard mixture of grain is spiced with oil cake and "Thorley" respectively, the results are interesting. The daily rate of increase has been in favour of "Thorley," a rate second only to the uncooked ration among the whole eleven, while the cake gave a solid average and a slightly less price per pound of the added live weight, than "Thorley." The chemical feeding position with oil cake is very prominently increased—second only to peas, and so far as we know, considerably higher than "Thorley." Were "Thorley" as cheap as oil cake, the cost of production would be strongly in favour of the former; but we fed a high rate of the Thorley condiment and a medium of the cake.

An unusual feature of our winter feeding experiments was the weighing of all the water drunk. The notes already given and the diagram that accompanies them, should be carefully studied. There is an agreement between the amount of roots consumed and the water that the animal requires afterwards; but yet it is second to that of the temperature of the stable; neither is the character of the other foods a prominent agent in affecting the consumption of water. (See detail notes.) That as low a mean temperature of 42° affects the consumption of water so much, seems to be unusual, even theoretically.

I do not wish to say much here in regard to the maturing of the Shorthorn Hereford, and Aberdeen Angus Poll grade steers. "Come and see them" is the best report at present; they are worth seeing. When an offer of about $700 is made, *and refused,* for

three head of grade steers that weigh about 1,600 lbs. each, there may be, to adopt what Dr. Johnson said about the angler—"a fool on the one side and a fool on the other." At the present moment the Hereford grades are still slightly ahead in daily rate.

The sheep-feeding experiments are submitted with some diffidence, and are but preliminary to more extended work.

2.—WHAT WE HAVE ON HAND EXPERIMENTALLY FOR 1884-5.

1. Fattening of 20 store steers.
2. Fattening of 3 speyed heifers.
3. The percentage of cream from milk of ten distinct breeds of cattle, under winter and summer conditions.
4. The proportion of butter from milk and cream of ten breeds, winter and summer.
5. The quality and other properties of butter, as obtained by various methods from milk of ten breeds, summer and winter.
6. Cream and butter from ten breeds of cattle, winter and summer, by deep setting in ice; deep setting by gradual cooling; and by centrifugal separation.
7. The size of butter globules in milk of ten breeds, under various conditions, winter and summer. (Illustrations.)
8. The size of butter globules in relation to quantity of cream and butter from ten breeds of cattle.
9. Cream from different breeds, and different conditions of the same breed, in relation to prices paid to patrons of creameries.
10. The churning of butter in relation to size of butter globules.
11. The centrifugal separation of cream from milk in relation to quantity from different breeds.
12. The question of butter-making in winter, with special reference to creameries.
13. The chemical analysis of milk from different breeds of cattle.
14. The relation of chemical analysis to ordinary methods of testing cream and butter in milk.
15. The testing of a newly-calved Holstein heifer, in milk, cream, butter and cheese, summer and winter.
16. The cheese curd from milk of ten different breeds of cattle, during winter and summer.
17. Ensilage corn in the production of milk, cream, butter and cheese.
18. Turnips in the production of milk, cream, butter and cheese.
19. Abortion among cows in relation to milk production.
20. The feeding of calves on skimmed milk, in connection with sending cream to butter factories.
21. Contrast in rearing calves by sucking—Shorthorn, Hereford, Aberdeen Poll, Guernsey, Ayrshire and Jersey.
22. Is abortion among cows contagious, infectious, sympathetic, food influence, or management?
23. The growth of calves from eight breeds.
24. Fattening a score of common store steers from 1,000 to 1,350 lbs. in six months of winter, for the British market.
25. The possibility of making *yearling* beef fit for exportation.
26. The Shorthorn, Hereford, Aberdeen Poll—beefing contest at the Ontario Experimental Farm.
27. Fattened shearling wethers of six distinct grades—their cost, wool, weight and value, for the British market.
28. Cross-bred lambs from ten different sources.
29. Lambs from nine distinct breeds—their number, weight and estimated value.
30. Wool, in weight and value, from nine breeds.
31. How thirty varieties of cultivated grasses have stood two severe winters in Ontario.
32. Abstract of proposed public sale of live stock at the Ontario Experimental Farm, September, 1885.
33. The silos 1884-5.

SPRING WHEAT.

From Oakshott & Co., Reading, England.

16. April Bearded	May 6th	August 21st	6.41	1.132	41.5
17. White Fyfe	" 5th	" 21st	3.58	1.772	36.9
18. White Fyfe	" 5th	" 21st	2.16	1.185	34.8
19. White Russian	" 5th	" 21st	8.00	1.970	43.1
20. White Russian	" 5th	" 21st	12.58	2.677	46.5

Rate of seeding—6 pecks per acre.

BARLEY.

From Oakshott & Co., Reading, England.

2. Golden Drop	May 3rd	August 21st	48.43	3.168	44.5
4. Golden Melon	" 3rd	" 21st	49.47	3.076	47
6. Peerless White	" 3rd	" 21st	47.91	2.790	49.8
8. Thanet	" 3rd	" 21st	51.66	3.126	48.1
10. Chevalier	" 3rd	" 21st	50.52	2.978	48.1
12. Empress	" 3rd	" 21st	53.54	3.101	45.6
14. Mercury	" 5th	" 11th	40.31	B	40.3
15. Black	" 5th	" 11th	A	E	61

Rate of seeding—6 pecks per acre.

With the exception of the "Mercury" and Black, all the varieties were about equal in maturing, the earliest and best on the ground being the "Mercury," a six-rowed variety.

OATS.

From Oakshott & Co., Reading, England.

Rate of seeding—2 bushels per acre.

No. of Plot.	Variety.	Seeding.	Time of Ripening.	Yield per Acre.		Weight of Grain per measured bushel.
				Grain in Bushels.	Straw in Tons.	
1	Black Tartarian	May 3rd	August 14th	43·52	3·225	22·
3	White do	" "	" 21st	44·41	3·674	20·
5	Racehorse	" "	" 11th	46·32	2·321	24·
7	Victoria	" "	" 11th	46·02	2·421	33·8
9	Waterloo	" "	" 14th	69·41	3·282	31·5
11	Early Blossom	" "	" 14th	58·37	2·530	37·9
13	Fort William	" 5th	" 21st	25·14	2·777	17·8

The "Racehorse," "Victoria," and "Waterloo" varieties were well headed on 11th July, being the earliest of any, even earlier than our own well known Black Tartarian. The Black and White Tartarian were late in filling—the latter particularly late, and both were very much injured by rust—the Black more than the White. Most of the new varieties got from England have turned out well—the Waterloo particularly so. They are all branched varieties.

All the crops of this range were much injured by rust—in some cases as much as 50 per cent.

TURNIPS UNDER FOUR FORMS OF FERTILIZERS.

Plot.	Crop per Acre.		Fertilizers per Acre.	
	Leaves.	Bulbs.	Kind.	Amount.
	Lbs.	Bushels.		
71	12,960	315.6		
72	17,280	544.3	F. Y.	14 tons.
73	15,580	424.0	Nitrogen.	150 lbs.
74	14,020	422.0	Super.	350 "
75	10,940	381.6	Muriate of Pot.	150 "

GREEN FODDERS, 1884.

On plot 81, corn (western variety) cut on gave $9\frac{1}{10}$ tons per acre.

On plot 82, spring rye cut on July 7th gave $3\frac{1}{10}$ tons per acre.

Following the spring rye we seeded with rape (broadcast) as a catch crop, on August 6th. This was cut on October 7th, and yielded $7\frac{9}{10}$ tons per acre.

On plot 83 we have prickly comfrey, which yielded only three cuttings this summer, as follows:

May 28th	8.6 tons per acre.
July 7th	7.9 "
October 7th	7.6 "

In all, therefore, $24\frac{1}{10}$ tons per acre.

On plot 85, we have Lucerne laid down 16th May. This year we made three cuttings only, as follows:

June 3rd	2.1 tons per acre.
July 2nd	2.6 "
July 28th	1.8 "

In all, $6\frac{1}{2}$ tons per acre.

It is but fair to note that this particular plot does not possess more than six inches of good surface soil, and the subsoil unsuitable for any deep-rooting plants.

On plot 86 were tares and oats. These, cut on 17th July, yielded $6\frac{8}{10}$ tons per acre.

Sanfoin, red, white, crimson and alsike clovers, made a fair show, except the crimson, which will not stand our winters.

GRASSES (GROWN SEPARATELY).

(And as all seeded in May, 1883.)

Timothy.—Our prominent hay plant requires no comment.

Orchard.—As usual, early, strong, bunchy, withstanding drought, and holding out late in Autumn. Poor for hay, good for pastures.

Creeping-agrostis repens.—A slender-leaved plant with creeping roots, not of any prominence for Ontario purposes.

Tall Oat.—This again has done remarkably well with us. It flowers nearly all the season. The produce per acre this year was unusually large.

Italian Rye.—Much injured by the winter, but where associated with other grasses, has stood much better.

Perennial Rye.—See remarks on Italian Rye.

Red Fescue-festuca rubra.—A variety resembling a hard fescue, and of secondary importance. Nearly all the Fescues are hardy and do well here.

Sheep's Fescue-ovina-festuca.—Another of the less valuable of the variety.

Tall Fescue-festuca aelitor.—This gives early foliage, and, as it loves moisture, may become one of our valuable meadow plants.

Hard Fescue-festuca Duriscula.—Reliable enough, if valuable enough.

Various-leaved Fescue.—Quite a typical plant, but probably not so reliable in drought.

Fine-leaved Fescue.—Very hardy, but of meagre growth which, we presume, is according to kind.

Large-leaved Fescue.—A very different looking plant from the other Fescues, resembling the oat grass.

Meadow Foxtail-alopecurus pratensis.—This deserves special notice, with a view to the future of our permanent pastures, and as we do not find it has as yet obtained a place in Canada.

Sweet-scented Vernal.—Again a failure—will not stand our winters.

Crested Dog's Tail.—Here also, we will have to bid good-bye to this variety—both as regards its nutritive value and want of hardiness.

Red Top.—One of our reliables, and already well-known to many, but must be associated with others to secure its best value.

Wood Meadow.—Has done well, and would make up one among others for permanent pasture under shaded, damp conditions.

Rough Stalk Meadow-podtrivialis.—This is distinguished from the Smooth-stalked variety by rough leaves and stems.

Yellow Oat-avena flavescens.—Does not do well alone, but very good among others.

MANGOLDS.

From Several Special Fertilizers.

PLOT.	MANURE.	CROP, 1883.	CROP, 1884.	1884.	
				Bulbs.	Leaves.
		lbs.	lbs.	lbs.	lbs.
112	Nit. of Soda, 300	29,990	20,240	12,340	7,900
113	Super. 400	36,040	19,810	13,320	6,490
114	N. of Soda 300, Super. 400	33,380	21,230	13,340	7,890
115	F. Y. 14 tons	30,880	25,680	18,740	6,940
119	No manure	9,340	13,240	8,520	4,720

MANGOLDS.

(With Lime and Salt on a peaty soil.)
Manure applied in June, 1883.
Seeding on 27th June, 1884.

PLOT.	Crop per acre. lbs.	Bulbs and Tops.	Leaves.
105, nothing	16,410	13,200	3,210
106, Salt (300 lbs.)	35,240	28,220	7,020
107, Lime (3 tons)	29,200	24,400	4,800

SPECIAL FERTILIZERS ON OATS AND BARLEY.

PLOT.	MANURE.	CROP.	Total Yield per acre.		Weight Per Bushel. lbs.
			Grain. bush.	Straw. lbs.	
134	Sup. and F. Y.	Probestier Barley.	19.3	1210	46.3
135	M. of Pot. and F. Y.	"	10.3	905	44.8
136	No manure	Fort William Oats.	16.6	1695	31.
137	Sup. M. of Pot. and F. Y.	"	48.3	1815	34.
138	Nit. of Soda and F. Y.	"	48.3	2335	32.5
139	Powdered L. Stone and F.Y.	"	42.2	1705	32.
140	F. Y.	"	47.9	2510	35.

NEW PEAS FROM ENGLAND.

PLOT.	KIND.	Yield per acre. Bushels.
157	Prussian Blue	20.4
158	Early Dun	22.
159	Maple	27.8
160	Early Britain	28.3

WINTER WHEATS.

VARIETY.	Crop per acre.		Weight per bushel.
	Grain.	Straw.	
	bushels.	lbs.	
Michigan Early Amber	13·5	3545	47·4
Martin Amber	11·4	2995	50·3
Bonnell	14·5	3285	48·9
White Mountain	8·1	2150	46·5
Roger	14·9	2940	53·2
Soule	20·6	3240	53·8
Egyptian	11·2	2520	50·
Clawson	18·3	2700	57·
Finlay	19·9	2605	58·5
O. A. C.	25·4	2895	60·

V.—THE ONTARIO EXPERIMENTAL FARM CREAMERY.

It has long been a subject of comment that Canada had no place in the markets of the world as a producer of good butter; that we were notorious enough for a certain kind of butter, and that all the appliances of the country pointed to a very different condition of this branch of farm industry.

A very great deal of theoretical teaching has been growing upon us on this subject during the last three years, and the Province to-day is pretty full of its literature—though not of good butter. Several influences have contributed to public action in this neglected business. There has been, as already stated, American and European censure, which, honouring us with all that could be advanced in praise of our cheese, our beef, eggs and poultry (not mutton)—could not account for the total dearth of even ordinary butter; then also, private interest in dairy implements made some warm discussions here and there, which of late developed into the advocacy of three systems for the manufacture of butter—that of each farmer making his own; that of cream gathering and manufacturing

at established places, and that of the centrifugal system. In addition to these, there has been, as there will be in most affairs, a desire for change in those districts where disappointment—real or fancied—has followed the introduction of some other industry, and I think it is right to say that our Legislature has had all and more than a fatherly interest in the improvement of Canadian butter.

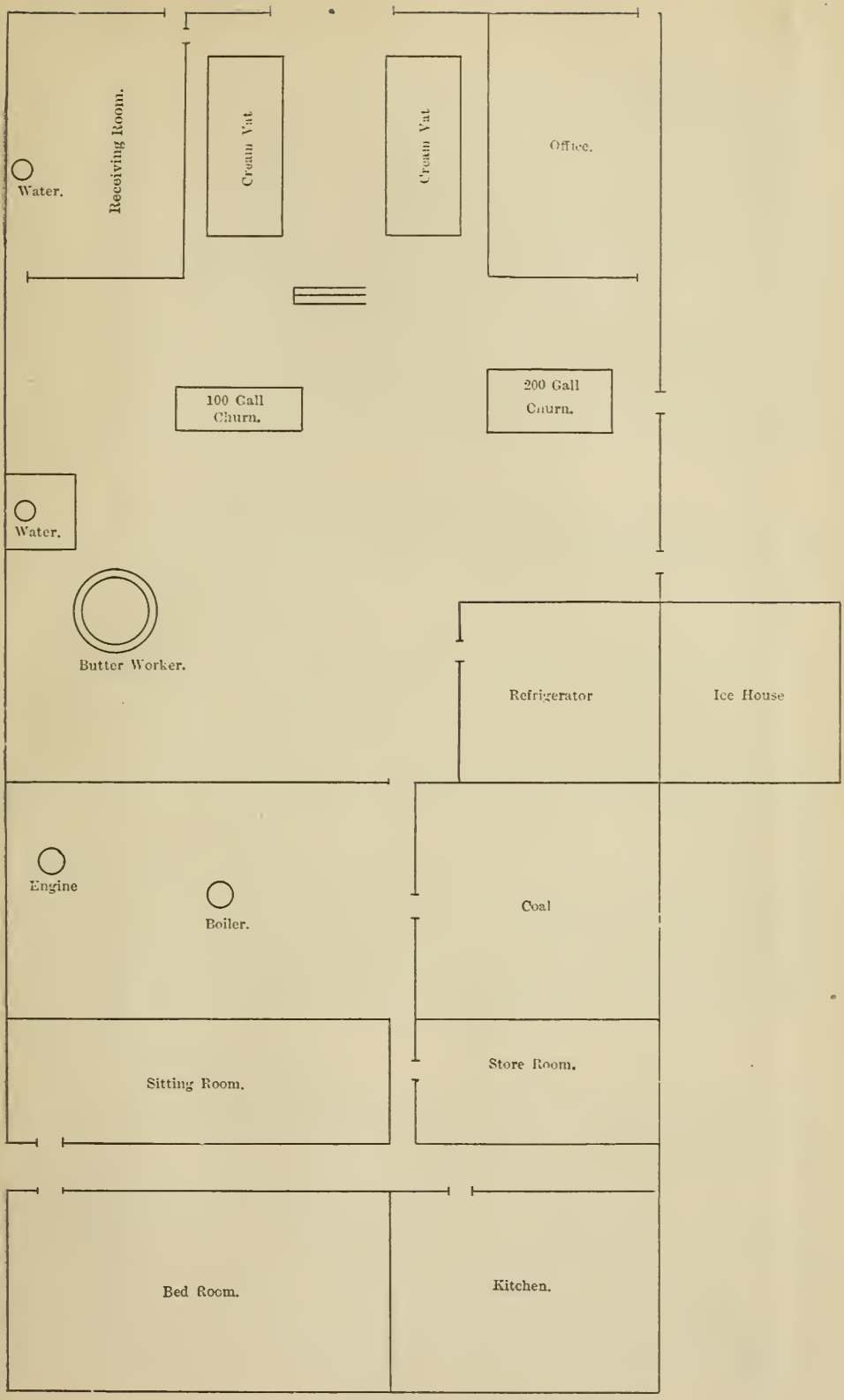
With a view, therefore, of educating and putting to practical test as a profitable investment for individuals or companies, the Ontario Legislature resolved to establish a butter manufactory in connection with the Experimental Farm, which has been named "The Ontario Experimental Farm Creamery." The personal inspection and advice of Mr. Wanzer, of Darlington, Wisconsin, was secured during the month of April last. This gentleman's standing as a practical expert in the cream gathering system is well known everywhere, and his recommendations have been strictly adhered to during the past test season. In company with several friends of the enterprise, Mr. Wanzer visited many farmers in the neighbourhood of Guelph, explaining the working of the same, and indicating how it would affect the patrons financially. Receiving sufficient encouragement by this tour, the Government proceeded to alter the internal arrangement of what we call the old Cheese Factory—a brick building situated in the new orchard of field No. 10 of the farm, and in due course the machinery and all appliances were ready for a start as late for the season, as 25th September last. Sixty-one patrons were secured who promised cream from about 275 cows. The position necessitated three routes for gathering—one team or single horse being employed at each daily, or every alternate day, as required.

The common shot can $3\frac{7}{10}$ gallons, $8\frac{1}{2}$ inches diameter, and 19 in. deep—two inches of cream on which is the standard for one pound of butter. These were distributed along with pine tanks of two sizes, as required for setting the cans in cold water. Minute instructions were given to each patron in regard to thorough system, cleanness, temperature, setting and skimming. The teamster of each route performed the skimming in presence of the patron, both noting the number of inches in their books, and the same at once entered in the "Cream Ledger" on arrival at the factory. The cream being poured into the vats was allowed to stand for twelve hours to attain a certain acidity before churning. What that acidity was, we do not know, nor, possibly could it be explained by fignres or letters, any more than many other things in practical manipulation among experts; at the same time it seems to me that some simple chemical test might be employed. Cream was usually churned the day following arrival. The temperature of the creamery was kept about 60° and churning took fifty minutes on average, by forty-five revolutions per minute of a four-sided or box churn. The accompanying plan of the creamery will give an idea of arrangements, in which are shewn two churns, one of 300 and another of 200 gallons. The engine of six horse power, and separate from the boiler, shafting and belting being simple in arrangement. In one word, the old Cheese Factory has been made into a very commodious butter factory, capable of making easily one ton daily—our American friends have said two tons—as a maximum.

It would be of no practical value to give any figures of cost of management, plant, etc., because everything has been so initiatory, and was so late in the season, that they would mislead; these will be fully classified next year, after what, we trust, will be a good average season.

The encouragement, under the limited experience thus briefly detailed, has been most gratifying. In the first place, all our patrons—one exception only—are preparing to add very considerably to the number of cows; they—the wives and daughters especially—are well pleased with the system; they say it lessens their labour most materially, and as they get as much, or nearly as much, for the cream as for the butter made by themselves, they cannot but feel satisfied; the farmer himself is doubly pleased—first that his fair helps are thus saved much labour—that he is not required to do any hauling or run any risks as a sharer in the manufacture, and that all the sweet milk is left at home for calves and home use in any form.

Then, also, we have been promised, and offered without solicitation, a large addition to our patrons in the immediate neighbourhood. Not only so, but I hold several letters from parties at considerable distances, offering to guarantee 100 or 200 cows if we will



THE ONTARIO EXPERIMENTAL FARM CREAMERY.

make special routes for them, and it has even been suggested that we should *gather by railway*. It will therefore be my duty to make very early arrangements with the Commissioner of Agriculture for next season.

It is my duty, pleasant indeed, to thank Mr. Wanzer for the thorough interest—unremunerative to him—he has taken in our butter-making by machinery, and to the two gentlemen he sent to give us our A B C lessons. Mr. Williams, as outside manager, evidenced an aptness and business tact of no ordinary character, and Mr. Logan, as practical butter expert, obtained full golden opinions; both being first-class in their profession. We are also due thanks to Jas. Taylor, auctioneer, for much help by his intimate knowledge of the country. A good deal of the butter was sold to private parties, and as it is necessary in such a new enterprise to give ourselves a name in the public markets of the world, we sent three tubs each to well-known commission agents in Montreal and Toronto; in New York and Boston, and in London, Liverpool and Glasgow, inviting the most free criticism on the quality of the material. As their opinion should be of some value to the country, and of practical application to the creamery, I beg to give extracts from their letters so far as received:—

From G. Bowles, 13 West Smithfield.
London, England, 6th November, 1884.

"I beg to state they are three tubs of fine butter, and will sell freely here at 130 , and as weather gets colder, will go for 140 ; the colour is all right, the only fault is it is a shade too salt; send me all you possibly can."

From Messrs. A. Ayer & Co.,
Montreal, Nov. 10th, 1884.

"We have looked at it critically, two tubs are really fine, such as we are paying 25c for, but one tub is much coarser and more ordinary."

From Messrs. Wiggin & Upton, Boston,
9 North Market Street.

"We have given it an examination, and find it very good. We think we can handle your goods to advantage, and if you have some smaller tubs we think it would be well for families."

From Andrew Clement, Esq.,
Cheese Bazaar, Glasgow.

"I am glad to say the quality is up to the mark; it is just a little over-salted and too high in colour for our market, but this can be easily remedied; the colour we like is just a nice straw, not the deep red colour of yours. I have sold it at 130 . With the slight improvements I have suggested it would take well in this market, and at all times meet with a ready sale. I think your Government is doing an immense benefit to the country in giving such an opportunity to dairymen of learning their business on the best lines of butter and cheese.

From Messrs F. C. Barger & Co,
82 Warren St., New York.
25th November, 1884.

We examined very carefully; one tub was fine in flavour, straight in color, and in every way high quality; the others were not clean flavoured, and had light streaks and spots in colour.

On 3rd October, Mr. Wanzer wrote me as follows:

"Should any points arise in the management of the business, I hope you will make free to communicate with me; anything I may do to aid you shall be free. I feel measurably responsible for the successful inaugaration of this system in Canada. . . .
Pay your farmers all you can for cream. We are paying at present 19 cts. for cream, and selling the butter at 30 cts. in New York, leaving a profit net to us of 5 cts. per lb. . .
The question with your people should not be—does this butter suit us, but does it suit the export trade; your creamery butter should fetch 10 cts. more in the market than good dairy butter; you will see a wider difference than even this, if you refer to the Boston,

New York and Philadelphia markets. If Canada through the creamery system can double the value of her butter, and at the same time cheapen the cost of making, she has made the two spears of grass grow where but one grew before."

A summinary, in paragraph form, of the work of the past season will be convenient for many of our readers.

Notes of Preliminary Test in 1884.

(Cream Gathering System.)

1. The building cost $3,000 and machinery $1,000, in all $4,000 as capital account.
2. The building consists of a receiving room, wash-room, working-room, cream vat room, office, ice room, store room, engine room, and four dwelling rooms for the butter maker.
3. The machinery consists of two cream vats, two churns (200 and 300 gallons respectively), one butter worker, one boiler and engine of 6 horse-power, the whole capable of making one ton of butter per day.
4. The creamery was worked experimentally for 33 days in September and October.
5. There were 61 patrons who gave cream from about 250 cows.
6. The cans used were the common shot gun ($3\frac{7}{10}$ gallons, $8\frac{1}{2}$ x 18 inches for milk space), two inches of cream on which are said to be the standard for one pound of butter.
7. The average daily receipt of cream from each patron was fully 2 inches or 4 on the can, from 4 cows by estimate.
8. The average price paid for the inch of cream (2 inches on can) was $20\frac{1}{2}$ cents.
9. This by estimate was equal to 10 cents per cow daily.
10. By estimate it took $2\frac{1}{5}$ gallons, or 23 lbs. of milk, to produce the 1 lb. butter inch of cream.
11. The average price obtained for the butter was 28 cents in Britain, $29\frac{1}{2}$ in the States, and 25 in Canada, irrespective of cost of delivery.
12. The prices obtained for butter per lb. from various agents were :—

London, England	28 cents.
Liverpool, "	28 "
Glasgow, Scotland	28 "
New York	29 "
Boston	30 "
Montreal	25 "
Toronto	26 "
Guelph	24 "

13. The average daily make of butter was 125 lbs., by churning 50 minutes, the cream having been kept in vats for 12 hours at a temperature of 62°.
14. 1,763 gallons of buttermilk were got from 3,655 inches of cream, being in the proportion of $\frac{2}{5}$ of a gallon of buttermilk to every pound of butter, or every inch of cream may be said to have consisted of nearly *one-half buttermilk.*
15. Buttermilk fetched 10 cents per gallon delivered in the city, and on an average is worth 3 cents per gallon for sale or pork feeding.
16. Butter was salted at the rate of 1 oz. to one pound, and packed in pine tubs of 62 lbs.
17. The average route in cream gathering was $11\frac{1}{2}$ miles out and in, or 23 miles daily travelling for one team.
18. The skimmed milk left at home by this system is estimated to be worth half price, or $3\frac{1}{4}$ cents per gallon, thus for every inch of cream or pound of butter removed there was left 7 cents of skimmed milk.
19. From the accompanying estimate the following analysis of the cost of a pound of butter is obtained :—

Gathering	$2\frac{1}{2}$ cents.
Cream, cost	19 "
Making	$1\frac{3}{4}$ "
Marketing	1 "
	$24\frac{1}{4}$
Less value of buttermilk	$1\frac{1}{4}$
Actual cost of production	23

20. It costs the farmer about 5 cents in summer and 10 cents in winter to produce one pound of butter.

ESTIMATE FOR A CREAMERY SUPPLIED FROM 500 COWS.

Receipts.

Sale of 67,000 lbs. butter at average of 27 cents (500 cows May to October)		$18,090 00
Sale of 30,000 gallons buttermilk, part sold and part feeding pigs, etc., at 3 cents, average		900 00
		$18,990 00

Expenditure.

Paid for 65,000 inches of cream at average of 19c	$12,350 00	
Four gathering teams at 2.75 per day	1,300 00	
Butter maker at $65 per month	390 00	
Assistant and occasional outside inspector	250 00	
Butter tubs, 1,300 at 35c.	455 00	
Fuel, oil, etc., for engine	30 00	
Storing ice	40 00	
Salt, coloring and linen cloth	50 00	
Repairs and incidentals	50 00	
Books, postage, etc.	10 00	
Freight on delivery of butter at various markets	325 00	
Interest on $4,000 invested capital	320 00	
		15,570 00
Balance being profit		$3,420 00

NOTE.—The patrons to pay for tanks and cans.

VI.—MECHANICAL DEPARTMENT.

ONTARIO AGRICULTURAL COLLEGE,
December 29th, 1884.

MR. BROWN,

Dear Sir,—At the close of another year, which is the tenth of our existence as an Agricultural College, I am reminded that the time has come round to take a retrospective view of how we have been employed in this Department during the year that has gone. I have much pleasure in submitting the following statement by referring to the labour records. I find the first names of students entered is October 3rd, 1883, and the work consists of general routine, chiefly repairs about the College buildings and farm steading, and in erecting a small barn, 18ft. x 28ft., by one of the dwelling houses.

There were likewise made a number of wheel-barrows for use about the stables and farm-yards. There were also made for use on the farm, four new waggon-boxes and old ones repaired.

About the middle of January, 1884, plans were prepared for erecting an Experimental Laboratory in field No. 15, and also a small house for holding weather indicators. Material was prepared forthwith, and both houses constructed in due time.

After the Easter term, and for the Garden Department, field operations were commenced by putting up fifty-eight rows of cedar posts, in all over seven hundred, and stretching wire thereon for the purpose of training grape-vines. There were also—in view of receiving a delegation of the British Scientific Association—a number of repairs executed on the green-houses, consisting of new flower-stands, passage walks, stairs and shelves, the glass was likewise overhauled and re-bedded. A number of large flower boxes were built, and also side-walk leading from the College to north side-line road, and an approach gate erected there.

There has not been much done this season in new field fencing, but a great deal has been done in keeping up the old, which to a considerable extent need renewing. Caps and face-pieces were put on along south side of field 15, and a new fence put up enclosing part of field No. 3.

There was also erected a windmill for pumping water to fields Nos. 3 and 4, 7 and 8, and likewise south lane; this, though not under my direction, was more or less under my superintendence, by seeing to foundations, providing watering troughs, floats, etc. I may here state that this has been found a great convenience and thoroughly serves the purpose.

After the new importation of live stock we found the stable accommodation insufficient, and accordingly it was decided to extend the existing bull-shed 30 feet, giving additional room for six animals in loose-stalls, each 10 ft. × 14 ft. 6 in. with a road-way 10 feet wide between, and a spacious grainery overhead.

During the month of September we were engaged in fitting up our experimental dairy, this room 16 ft. × 24 ft. with large cellar containing heating apparatus for equalizing temperature. It has marble tables, testing tubes and other necessary appliances for butter-making. There is also in this room one of Professor Fyord's approved Burmenister & Wain's Danish Centrifugal Milk Tester. As this machine is something new and novel in its construction, allow me to describe its use and how we apply it: A brass disk 12 in. in diameter having twelve tubular pendants 6 inches long by 1½ diameter, in which are placed the glass tubes containing the new milk. Through the centre of this disk is inserted a vertical spindle, having a hand pulley 2¼ inches diameter, the motion being transmitted by 1½ inch belt from a horizontal counter shaft with driving pulley 19½ inches diameter, revolving 140 times per minute, hence driving the vertical-shaft and disk 1214 revolutions per minute, which is the motion required. On one end of counter shaft and overhung the journal, is a driving pulley 5½ inches diameter, motion being transmitted by band wheel with crank of 14 inch throw on each end of shaft, having a travel of 147 feet per minute, and exerting a power of ·40 or less than one half horse-power. The result is obtained, viz.: the cream is separated from the milk by centrifugal velocity in from twenty five to thirty minutes.

I have also to mention that for the purpose of pasturing the different breeds of sheep in the same field, we built and erected 500 panels and heads of portable fencing.

Near the close of the summer term I was notified that a new cattle stable would be required, capable of feeding twenty head. This building, 82 feet by 17 feet, was proceeded with and completed, and has now been in use for some time.

I may notice, in a closing word, that the mechanical department has overtaken more work this season than at any previous period in the same time, and the workmanship, in some cases, required to be of a higher order. We were under the necessity of having one permanent assistant, and in some instances more outside help was required to accomplish the work by a specified time. As a means of educating, the students employed in the department have had every advantage of both seeing and doing the various details of skilled labour that were under operations from time to time.

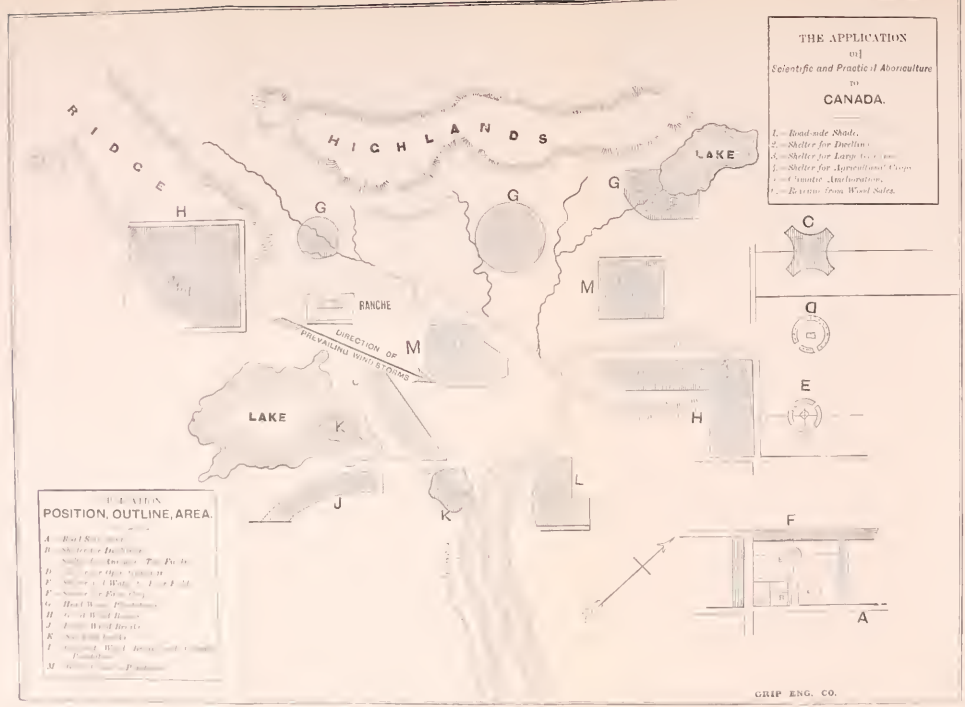
This, sir, is a general outline of the work of the mechanical department from October, 1883, to October, 1884.

I am, sir,

Your obedient servant,

JAMES McINTOSH.

GUELPH, January 2nd, 1885.


THE APPLICATION
of
Scientific and Practical Aboriculture
to
CANADA.
1.—Road-side Shade.
2.—Shelter for Dwellings.
3.—Shelter for Large Grounds.
4.—Shelter for Agricultural Crops.
5.—Seaside Anchorations.
6.—Revenue from Wood Sales.
RIDGE
HIGHLANDS
LAKE
RANCHE
DIRECTION OF PREVAILING WINTER STORMS
LAKE
H
G
G
G
M
M
C
D
E
H
K
J
K
L
F
A
POSITION, OUTLINE, AREA.
A
B
C
D
E
F
G
H
J
K
L
M
GRIP ENG. CO.

VII.—ARBORICULTURE.

The Application of Scientific and Practical Arboriculture to Canada.

Is there any country whatever that has made an eminent agricultural history and does not now complain of want of trees?

Advanced nations are not discussing the worth or worthlessness of trees in their rural economy; they are considering how best to secure the fulness of the value thereof in all their bearings. In doing this much serious consideration is necessary. It would be very unwise for any country to rush into extensive tree planting without a clear idea as to how the work should be begun, carried out and maintained. It is my purpose briefly in this paper to show what Canada can do in the scientific and practical application of arboriculture, and before handling the subject as a forester, allow me to submit some general views.

Canadian forestry will have no place in all its scientific and practical value until one of two things be accomplished: One is the conviction on the part of her farmers of the necessity of conserving and replanting, therefore, their education up to these; and the other is the power by Government to resume parts of the country for conserving and replanting. Both will be difficult. The former would be the slower but eventually the most thorough, because of self-interest; the latter would be more immediate and possibly less efficient, practically, though scientifically better applied. No large number of various interests could be so well arranged as by a company, and therefore Government, as a company, will have to become foresters in all the many details of the profession.

Much of our indifference in this subject arises from the common idea that the planter cannot himself personally hope to receive all the benefits from the conservation of the present trees, and particularly from replanting. American returns, to the American, must be smart, strong, and undoubted; the idea of permanency in the long after years does not concern us so much as now. In Europe it takes a shape that may never be realized here, because of one thing—that one thing is large proprietory, the possessing within one man's power all the area and class of soil suitable to profitable production on a large scale, so that even that one man can employ officers and men in such number as make profits certain. Cultivated Canada meantime is so sub-divided as to preclude all idea of sufficient massing of woods to receive equal results with Europe,—but the day may come, and meantime progress must be made otherwise.

I believe it is the experience of the world, that more difficulty, in various forms, is found in reclothing with trees where trees grew before, than it is to plant, not replant, a country for the first time. There is not only the practical fact of succession of cropping in its scientific and natural bearings, as similarly realized for example in the products of the field, but the more serious one of the indifference of those who cut the first crop. Most of us think of trees as means of shelter, under several forms. We like shelter for buildings, shade for ourselves, shelter and shade for animals in the field, and shelter for farm crops. These alone would make up a large value in any district where required, and would justify all the cost and subsequent attendance. Yet we have another aspect of the question that takes an equally strong place in our regard; *Climate* is not alone a matter of great outside causes, but one intimately related to local influences, among which trees are pre-eminent. We have no time to show how temperature, rainfall, moisture, and evaporation are directly influenced by a small or large surface of trees, and how, therefore, water is largely in the hands of trees for distribution. This second duty of forestry as a science and practice would even seem to swallow up the previous question, and is consequently inducement alone to its prosecution on our part. Were neither of these sufficient, however, to convince, the third great reason for tree cultivation will surely convert even the most American amongst us. It is no matter of doubt, under average conditions, in any country, that tree culture is more profitable as a crop than its own agriculture, year by year. This position is not open to question, but clear and marked in all experience where age has given time for proof. The area of trees in Canada is not an unknown thing in the older districts, and it is not true that it is poorly wooded in comparison with other countries. The United States can show twenty-five, and Canada nearly fifty per cent. of the cultivated districts as

still under trees. This is possibly larger than any other continent, if we except the northern part of Europe, where agriculture is necessarily at a discount, and where forest is practically untouched. The cause of our discontent then is not want of forest per nation but its regular distribution to subserve all the needs of the nation.

The existing condition of our forests is the very first consideration in this enquiry. Outside of the lumbering interest, which of itself is simply a taking without system, there is no enclosing, preserving, caretaking, or conserving in any sense except the right of individual ownership, some of whom do act the forester, but nationally there is nothing recognized. The average "bush" of North America is a beautiful sight and yet a sad one. The artist must revel in its variety of form and foliage, but the fighting for place, the smothering and rotting for want of light and air can only be estimated by those who are scientifically and practically foresters. I do not mean that our forests in every case should be managed similarly to those in Europe, because much of our best timber requires very different conditions, but similar principles ought to guide our management.

There are really no figures to give as to the extent of Canadian forest, either as to gross area or special kinds of timber. The small map recently issued by Dr. Bell, of our geological survey, gives a good idea of the northern limits of the principal trees, but, of course, it cannot help in either of the particulars named. As the country, with the exception of prairie, was originally all forest, and as we have cleared about 25,000,000 of acres for agricultural purposes, it may be said that the whole country is still under trees with these exceptions. What the extent is to a million acres nobody knows, nor do a million acres one way or the other affect our subject.

We have four distinct fields of operation in the future of Canadian forestry: 1st. The untimbered lands such as prairie. 2nd. The older cleared portions. 3rd. The recent forest settlements, and 4th the untouched forest. Each of these will require different methods as to conserving, clearing and replanting, although all will be subject to one grand system of operations. To submit details now would be unnecessary when the object is to impress principles.

But yet another aspect of the question is the requisite proportions of tree surface to that under farm crops. What should it be? This is just one of the things that we do not know and that we are not likely ever to know as a point for general practical guidance. When I had the honour of addressing the British Science Association, at Dundee, in 1867, and at Norwich, in 1868, upon the claims of arboriculture as a science, they knew little upon this point in a country possessing greater physical distinctions than Canada. The conditions are so various as affected by climate, altitude, latitude, aspect, soil, sea or lake neighbourhood and vegetation, that no possible number of observations in any length of time could say how much for one district or so much for another. However, men do come to realize through science and practice—practice especially—that a farm or district needs the protection in certain places, and thus a country could easily be reclothed to the extent required for such shelter, if not for regulation of climate and other considerations, to which we will soon refer. The point then of immediate shelter is within everybody's knowledge, and needs no scientific guidance, and I may here say no governmental spurring. But the greater field of climate as an unknown one practically in this relation, is more a national problem, and still very much a scientific inquiry, and what it will have to say in regard to the proportion of trees to farm crops no one can tell. Of course if men disregard everything but the direct profits from trees as a crop upon land, another century may actually find some countries going back to the days of too many leaves and too little arable. Viewing trees in all their relations I am of opinion that upon an average of conditions in Canada, one-fourth of the surface should be covered by them, and as this is just one-half of what we have at present all over the forest districts, there rests the apparent inconsistency of wanting to conserve and replant all the while that we possess double what is required. This brings out the fact that it is the *irregular distribution* of tree surface in our case that gives trouble,—that some parts have more than required, and others have been overcleared.

As the subject grows upon our attention, we are next concerned with what parts of the country should be conserved or replanted, and in this part of the study it is obvious that our views cannot be confined to single farms or even special sections. Referring, as

we must, to the great overruling influences, as previously indicated, we have to deal with geographical features that may embrace thousands of acres that have to be subserved with one or more massing of trees. Just where to conserve or replant, how much on the spot or spots, so as to gather and dispense all the virtues that trees are known to possess, is the great problem of the future. To say that we should only replant our less valuable soils is nonsense, though apparently sensible enough from an agricultural standpoint; that high lands should be conserved or reclad as against lower parts is largely true, though not generally applicable, and that conserving and replanting must go hand in hand and take place anywhere as found best through experience, is correct in every sense.

Following this view of the subject there is naturally that of suitability of certain kinds of trees for special purposes. We have soils and climates wherewith to do almost anything in tree life from the pine of the far north, which luxuriates in an apparently bare rock cleft, to the walnut of the south, that must send its sturdy root several feet into a rich soil. The preparation of the soil, methods of planting, including fencing, draining, knowledge of enemies and friends in nature, and all the management throughout, in order to attain the highest results, are not for our time on this occasion.

And now for the more special purpose of these notes,—and in order to place myself properly with the Association, it is fair, as a matter of business, to note that what I am advancing is founded on British experience, beginning in 1854 and ending in 1870, during which time I had the immediate control of the formation, the planting, and subsequent management of something like twenty-one millions of trees, principally on the Seafield estates, in Banff and Invernesshire, and the Invercauld estates in Aberdeenshire.

In order to success anywhere there must be put in operation, upon a system, such a combination of the scientific and practical knowledge that at present exists as shall most likely bring about the fullest realization of tree value. That system is universal in its application, however small or large the scale, or however varied the conditions. Whether we pull down or rebuild, or make entirely new, the system will apply, and as it is by entirely new work that any system is best exhibited I will ask you to go with me to the Prairie. The subject then is almost an entirely treeless one, with an undulating, but generally uniform level surface, an occasional ridge, a lake, a river, cutting deep through the unshaded land, and bounded on the north-west by high lands as I have outlined on the map. Here, men need never hope to gather wealth of agriculture in all its branches without the help of trees. I think there exists nowhere in the world an example of *universal farming reliability* unattended by trees. I see no great future for Manitoba and our Northwest unless extensive systematic forestry precedes. The sooner our Government realizes this the better. All methods of farming, railway and water communication, minerals, natural grazing, or any other form of good things will never "make" a country without trees. We are not theorising in this. *A peopled agricultural country is an impossibility without trees.*

In our treeless region, therefore, experience has made us acquainted with a variety of wants that can be subserved by trees, and science points to more. Together, then, they make ap a bill that may be thus summarised:

1. Roadside shade.
2. Shelter for dwellings.
3. Shelter for cultivated farm crops.
4. Shelter for open natural grazings.
5. Shelter for enclosed grazings.
6. Head water conservation.
7. Wind breaks.
8. Climatic amelioration.

Either of these would of course serve more purposes than that implied by its name, but a full illustration of the system requires a form for each.

Now this map professes to show all these: from the single shade tree up to the great climatic plantation, the area or district embraced and the size of each of the classes would be subject to requirements, from one acre to as much as 1,000 acres each; the system or principle is not affected by size, but, position and form, or outline, are prime factors.

Size would be regulated by the particular physical features of the district and the object in view; form by prevailing winds as well as the particular object, and partly by physical features.

In our prairie example on the lower right hand corner of the map we have a farm of 160 acres made up as follows:

Timber	30	acres.
Cultivated	125	"
Orchards, garden, buildings, roads	5	"
Total	160	

The fields and roads lie northwest and southeast, and therefore northeast and southeast. By preference the buildings are situated on the southern angle of the farm at a junction of a concession and a side road. In the first place, the roads are lined with shade trees, which serve as shade to animals in some of the fields as well. Then the dwelling house and orchard, while open to the southeast, south, and southwest, are shaded by ornamental standards and lined on the north and northwest by trees. This tree line may be called the 2nd sub-wind-break of the farm. The barns, with two small fields or paddocks, are also open to the south and protected from the colder winds by a narrow belt of timber in positions similar to the others. The six other fields are, in the first instance, sheltered by a broad belt all around from the east, *via* north to the west, capable of breaking and mellowing the whole farm for cropping But, for live stock, under such circumstances, and with twenty acre fields, it is necessary to provide other shade and shelter. This is best supplied by what I have proved in actual practice both in Scotland and Canada. I know of no better form and position of a shade and shelter clump of trees than that illustrated in Fig. C., and the position of which is also shown in our farm example. It serves two fields, and from whatever direction the wind comes, or the sun shines, the animals can find a retreat in either field. You cannot shoot a straight line across this clump and not find a safe corner.

Then, in the adaptation of one form of shelter to four fields (Fig. E), is neat and serviceable, and when supplied with water in the centre is a very valuable acquisition to pastures. In the case of extensive open grazings, the circular belt (Fig. D) is also best for various reasons. It resists and breaks wind storms better than other outlines; it is less liable to damage by cattle or wind, is more compact and affords more outside shelter. There should be two passages not far apart and facing south as much as possible; one passage is not enough with a large number of cattle going and coming, and provision is necessary for a stack of hay in the centre.

These are what may be called the purely agricultural divisions of arboriculture, and are definite and practical enough, upon which little difference of opinion is likely to arise. In what remains of my subject there may be not only difference of opinion in regard to details, but considerable difficulty in satisfying that anything more is needed than what has already been sketched. It will be said: As each farm has its proper amount of shade, shelter, fuel supply, and even wood revenue otherwise, what more does the country require?

I have not seen in any work on rural economy that it is as much the duty of nations to administer their arboriculture as their laws of health. Then while everyone acknowledges that without the proper measure of trees there cannot exist the proper health, political economy, science, agriculture and all society, is equally interested in this question, and as I have already indicated its national aspect, it is only necessary to point out how more than the immediate farmer's work is required.

Over a great plain, such as our prairie, where storms rage unchecked, where rains come and go irregularly and uneconomized in any form, and where sunshine is unmellowed, it is necessary to establish agents for the purpose of sub-serving these and other climatic purposes. Assuming that all the country were planted to the extent already shown for

immediate farm use, there exists nothing in particular spots—no plantations exactly placed to conserve head water streams, no great and small wind-breaks, and no great climatic plantations—the agents respectively.

On the map these are shown in position, proper outline and extent. *Position* is regulated by elevation and neighbourhood of other physical conditions, such as water surface, and high land; *outline* is regulated by direction of prevailing winds, conformation of surface, and partly by public roads, while the *extent* is directed by the indefinitely known influence that a certain body of trees possess over climate; climate being understood as distribution of rainfall, evaporation, natural drainage and temperature.

I am aware that we cannot reason on this from any clear or precise experience, and are driven to draw conclusions from actual facts, and there seems to be no doubt that it requires a certain massing and kinds of trees to ameliorate climate, narrow strips and clumps being insufficient, or incapable of doing so.

Head water plantations, as implied in the name, must surround, or be in the immediate neighbourhood of, sources of streams, and have an outline to nurse them, with area consistent to the importance of the source. The circular form is good and applicable to the two springs at G., or it may be oval as illustrated at the mouth of the valley, and would also take the position and area of that at the small lake.

Great wind-breaks being meant to defend the smaller plantations as well as particular districts, have to be carefully outlined, of very considerable extent, and must command an exact position. In the example of H, on the ridge, which is designed to break the storms from the adjoining ranch, several points are noticeable: The land occupied by the plantation is within one block, or range of roads, and therefore does not encroach; it occupies also part of a ridge that generally is less valuable for agricultural purposes, it is formed to cut or feather the storms that prevail in the district—south west by west—a point in forestry of very great importance indeed; it is massive or in sufficient body to resist and is situated so as to break the main force of the storms. It may be remarked that it would be better to extend the plantation eastward upon the point of the ridge, this I have avoided in order to make the example more difficult.

The other great wind-break is of a different form, while serving a similar purpose. It parallels with the public roads, makes no awkward corners for cultivation of adjoining land, faces prevailing winds with the exception of southeast end, and will protect a large area of country.

Lesser wind-breaks, as at J., are placed where, either by the form of the country on the prevailing wind side, or where a larger break is difficult to establish. The example on the east of the large lake exhibits both. Position here is very important, and it will be observed that outline and area are arranged to receive the storms across the lake, break them, and yet yield to them.

Sub wind breaks are easily arranged and can take various forms and sizes to suit conditions as at K.

Another kind of plantation, as already referred to, is that which I call climatic—the objects of which have been explained. Their position in a country among others is not so easily reasoned, either scientifically or practically. Area is obviously of more consequence than form, because it requires a great field of leaves to do what leaves are said to do in climatic amelioration. M. with eight sides, and the other with four, are designed as concentrated masses adapted to Canada, and of course in their case, more than other plantations, the cost of establishment would be less per acre, and would also better meet the item of revenue. It is an example of a conjoint wind-break and climatic plantation.

Canadian forestry, whatever its future, will never realize all it should unless hand in hand with science.

Estimate of Financial Position of a Mixed Plantation of 100 Acres in Canada, Manitoba and the North-West Particularly.

Revenue.

1st Thinning when 15 years old, 3,000 poles, 20 feet long, at 3 cents, fully....	$100
2nd Thinning at 13 years; 8,000 trees, at 5 cents.....	400

3rd Thinning at 25 years; 15,000 trees, 12 inches diameter at base, 40 feet, at 30c.	$4,500
4th Thinning at 35 years; 25,000 trees, 20 inches diameter, 50 feet, at 50c.	12,500
5th Thinning at 40 years; 30,000 trees, 22 inches diameter	22,500
6th Thinning at 45 years; 21,000 trees, 25 inches diameter, at $1	21,000
7th Thinning at 50 years; 18,000 trees, at $1.10	19,000
Gross Revenue	$80,000

10,000 trees failed, leaving 20,000 trees, or 200 per acre as permanent crop.

Expenditure.

1,000 rods of fence, at 75 cents, part soil, part timber	$750
Drainage of portions	250
150,000 trees, 1 year seedling, 1 year transplanted, at 1c	1,500
Planting same	575
Freight on trees	150
Original cost	$3,225
Per acre.—$32.	
Replanting failures for three years, 5,000 trees	$100
General attendance, up-keep of fence, etc., for 15 years	300
Gross cost	$3,625
Per acre until revenue begins—$36.	
Cost of thinning and hauling to roads	$13,100
General superintendence and incidentals for 35 years	3,500
Gross expenditure	$20,225
Balance being clear revenue	60,565
	$80,790

No allowance is made for interest on outlay and rent of land, on the one hand, nor for interest on revenue, and value of grazing for 25 years, on the other hand. Neither is credit given for climatic amelioration, nor for value of permanent crop.

VIII.—MISCELLANEOUS.

1. Food in Cattle Life.

We have before us a tabular statement of an unusually interesting character. I think it is very likely that no similar statement, in variety, and possibly practical value, has ever been issued from *one place* before. Nine years is a short time in the work of an experimental station, if it has been alive, and a terribly long one if otherwise. I have gathered, and now present for the first time, a cumulative account of no fewer than 50,000 notes upon what fattening cattle have said at the Ontario Experimental Farm from 1876-84. The details of these have appeared in the Reports of that period, and have elicited criticisms in many forms in America, and Europe, and Australia. As the agent of the government, and responsible for these experiments, I do not claim that we have discovered anything very new or remarkable for the farmer or scientist, because they are not of that character that go in search of the unknown above or below us: they are part of our everyday handling, and therefore the more attractive. Then, also, I do not necessarily submit any chemical light on this occasion—valuable and interesting as such always is.

The only chemist we consulted in the lengthened series of experiments was Professor "Cattle Stomach," whose practical judgment and truthfulness has never been doubted by anyone.

It is well first of all to remember that the conditions were as uniform and alike as could possibly be secured in conducting the experiments we have to discuss, so that to all human ken nothing influenced the results excepting food, and yet of course it is well known that an eighteen years' experience is better than one of nine.

Then again, it must always remain a matter of some doubt as to the extent that one kind of food influences another, even when one is given in smaller quantity than another, so that when in two separate rations of, say, peas and corn as regulators, which must be accompanied with some hay for health's sake, if nothing else, it cannot be said how far the hay influences the one grain more or less than the other. That the food to be experimented with should be regulated by *quantity* is evident, and it is upon this practical ground we take stand on this occasion.

	Natural Order.	Daily Increase per Head.	Cost per lb. of added Weight.
		lbs.	c.
1. Permanent pasture	A	2.05	2
2. Hay pasture	B	1.15	5
3. Mixture of corn, peas, oats and barley with hay, roots and bran	P	2.25	8½
4. Cooked hay, roots and bran, with mixture of grain, uncooked	Q	1.80	9
5. Hay, roots and bran, without grain	C	2.14	9
6. Corn, with hay, roots and bran	F	2.00	9¼
7. Peas, with hay, roots and bran	E	1.91	9½
8. Uncooked hay, roots and bran with mixture of grain	K	2.60	9½
9. Oats, with hay, roots and bran	D	1.64	10
10. Mangolds, with hay and mixture of grain	M	2.38	10⅓
11. Turnips, with hay and mixture of grain	L	2.30	10½
12. Cut hay and roots, with bran and corn	H	2.10	11⅓
13. Mixture of grain, with oil cake, hay, roots and bran	R	2.00	11½
14. Mixture of grain with "Thorley," hay, roots and bran	S	2.40	11¾
15. Barley (black) with hay, roots and bran	J	1.60	11¾
16. Barley (common) with hay, roots and bran	I	2.02	12
17. Rice meal, with hay, roots and bran	O	1.81	12
18. Sugar beet, with hay and mixture of grain	N	2.70	12⅓
19. Wheat (damaged) and valued at 60c. per bush., with hay, roots and bran	T	2.00	12½
20. Uncut hay and roots with bran and corn	G	1.76	14
		2.02	10

Market Prices of Feed.

Corn	$ 0 62 for 56 lbs.
Peas	0 72 " 60 "
Oats	0 40 " 34 "
Barley	0 66 " 48 "
Rice Meal	35 00 per ton.
Bran	11 00 "
Hay	10 00 "
Turnips	0 08 for 60 lbs.
Mangolds	0 10 " "
Sugar Beet	0 12 " "
Linseed Cake	30 00 per ton.
Thorley Condiment	0 05 per lb.

The above table is an abstract of the whole series handled since 1876, shewing in the first column what I call the natural order of the foods used, that is from the most natural and common kinds up to the more uncommon, in alphabetical order; the second column gives the daily increase per head to live weight, and the third the food cost of each pound of the added weight of the animal, according to market prices noted. The whole list is given in order of cost of production.

The discussion of these twenty forms of cattle feeding is now the subject of this paper.

I.—Permanent Pasture.

Our experience—not Ontario experience, necessarily—of the value of the mixture of good grasses with clovers is of the most decided character. There are now twelve reliable grasses for this purpose, four of which have been introduced and established at our station; these with the five kinds of clover to be mentioned form a variety of plants for animal wants equal, if not actually superior, to any combination of artificial food. It is European experience, and should undoubtedly be Canadian also, that such pasture established and maintained as it ought to be in these days gives a larger and cheaper result in animal growth and products than can possibly be obtained in any other way. I cannot over-rate the importance of this crop; it comes early in the spring, plant after plant, according to its kind, in succession—just as nature provides plant after plant for her dependents—it withstands drought very effectually, retains moisture, and holds out long into the fall; it is the most healthy of all foods, and the more it is cropped the better it becomes, under proper management. The seeds do not cost over $5 per acre, and once established is the least expensive to maintain. It is better adapted to the growth of young animals of any class and to the production of milk than to finish off prime beef and mutton, but even in these things it holds a high place. The table shews a daily rate of 2·05 lbs. at a cost of two cents per pound. Why is England now placing more than one-half of all her *cultivated* area under such a crop, and with all her age and experience, knows of no better method of conserving and producing wealth per acre. While we may never reach British results, we have already shewn that one acre will maintain seven sheep, and 1¼ acre one cattle beast yearly. The national importance of this simple crop is very evident, and should be driven home very hard in these days of grain *vs.* live stock; it is not one admitting of any doubt, but proved under a variety of conditions—as several Ontario farms have followed our facts. If every farm in Ontario had ten acres of such pasture, the 1,000,000 thus handled would turn out 480,000 store cattle more than at present, *without increasing our cultivated area or production of other crops.* I would like to submit some points for the dairy in this connection, but it may come up again. Meantime be assured that permanent pasture is the backbone of the agriculture of any country.

Grasses and Clovers for Permanent Pasture in Ontario—Quantities per Acre.

GRASSES.		CLOVERS.	
Timothy	7 lbs.	Lucerne	4 lbs.
Orchard	4 "	White	3 "
Italian Rye	2 "	Red	1 "
Perennial Rye	2 "	Alsike	1 "
Tall Oat	2 "	Yellow	1 "
Yellow Oat	2 "		
Red Top	2 "	Clovers	10 "
Meadow Fescue	3 "	Grasses	30 "
Meadow Fox Tail	3 "		
Bent	1 "	Per Acre	40 "
Kentucky Blue	2 "		
	30 "		

ii.—Hay Pasture.

By this I mean the pasture we have so much of in Canada in the rotation of cultivated hay from timothy grass and red clover—timothy the great and grand fodder plant of the American continent, and the clover so full of many good things for other crops and animals. No one who has any respect for Canadian agricultural history can belittle timothy and clover. But they never did and cannot possibly constitute a pasture in the sense of wealth, reliability and endurance. We may allow all the special causes of propitiousness soil, management, and district climate here and there throughout our country, and yet must admit that pasture after hay is no pasture; the very plants are not favourable, and hence altogether one of the prominent weaknesses *now* of our system of farming. No doubt we secure a good bite in June and September, but for continuous beef or dairy value our present stamp of pasture is woefully short, even under good shelter and water. The remedy is not one of absolute change, because we cannot part with such old and valuable friends, but fodder ought to be one thing and pasture another. One and one-seventh pound per head per day on an average is Canadian experience in the growth of store cattle on hay pasture, and this at a cost of five cents per pound of the added weight, results so far inferior to every other form of feeding that comment stands still.

v.—Hay, Roots and Bran without Grain.

The great object of fattening is production of greatest quantity at the least cost in the shortest time—irrespective of other conditions such as manure value, of which we do not take account at present. In the natural order of this enquiry—after summer conditions—we should look for fodder that can be plentifully and cheaply produced for winter use, such as hay, straw and roots; many farmers give no more, but it is not usually looked upon as other than bare maintenance—growing the bone and muscle of young animals well enough, but slow at fattening. In this branch of our experimental work we added bran to the hay and roots, but no other grain whatever, and of course the fodder in proportionately larger quantities than had grain been allowed. The result in cost and progress has been unexpectedly gratifying—something so good that one pauses to consider whether, irrespective of the value of manure, many of our feeders are not in error with so much grain and other forms of more concentrated cattle food. Five and one-seventh pounds per head per day at a cost of nine cents per pound are above the average of the whole series—higher than several that had the like fodders with large rations of grain. It is possible in this example that vigorous youth got all it wanted to grow bone and frame. Necessarily it took much bulk of fodder to do so, for the cost is greater than two examples on the card where various grains were plentifully supplied. The lesson is a good one, however, and bids us exercise greater charity than is common to those who pursue what is called the slower or old-fashioned system.

ix.—Oats with Hay, Roots and Bran.

To say in these times, that giving oats in addition to hay, roots and bran, may not add to the greater daily rate of increase to store cattle, will be received with considerable doubt. I know of no reason, scientific or practical, why necessarily, animals must increase more rapidly in weight because they consume so much grain of any sort, with the more natural forms of food such as hay and roots; it may as reasonably be said that some cultivated plants should grow and fruit very much better because they are supplied with certain forms of fertilizers, which they do not very often, or that grain supplied to animals on permanent pasture will always accelerate their growth, which it does not. Our experience by this experiment is just a mean cost of the whole of them, but only a daily increase of $1\frac{2}{3}$ lbs.

vii.—Peas, with Hay, Roots, and Bran.

In place of oats as the regulating grain of a ration, peas were established, and there never has been any doubt about its high standing as a grower of beef and mutton. An acre of this grain in Canada always means the making of two fat bullocks every winter, and when we allow for its value also—both in straw and grain for sheep, the pea may be said to do for Canada what corn does for the States. Its greater heating properties tell of more continuous use with young animals. You will observe by the table that it has not come up to the average in daily rate, though little short of it, but is under the average in cost.

vi.—Corn, with Hay, Roots and Bran.

The same quantities and kinds of fodders, led by corn, is next in natural order. There is possibly no other form of coarse grain known to the civilized world, that holds such an important place as this one—for man and all other animals. It is a pity Canada cannot grow enough, or even a touch of enough for herself; we can produce plenty of its fodder, but proportionately little of its grain as you know. At the same time we have been getting it at less price, pound for pound, than our own peas, and as it is a growing fact that so long as any kind of grain can be got for *one cent* per pound, it pays to fatten animals upon it, we have not much to grumble about. Note the cost of production and rate of increase, as standing close to the mean of all the series.

xx.—Uncut Hay and Roots, with Bran and Corn

This was a case of supplementing the ordinary fodders with some grain—in small quantity, of course, so as not to over-influence the fodders, and in opposition to that given in No. 5, C, already referred to. Here is an example of slow and costly progress by the use of large quantities of Hay and Roots, even though touched up with some grain—the most costly of all the set, and the third lowest in daily increase—hay pasture not included.

xii.—Cut Hay and Roots, with Bran and Corn.

But the like fodders cut and pulped, and accompanied with the same kinds and quantities of grain have told a considerably different story. While somewhat over the average in cost of production, this form of diet has given a very considerably larger rate of increase—second only to six others. The inference is—and yet this may not have been the only cause—that the fodders though in large quantities were *prepared* partly for assimilation, and rushed the weight of the growing animal better than in the uncut testing.

xvi.—Barley (common) with Hay, Roots and Bran.

It will interest not a few to mark the very good place taken by our Malting Cereal in all the coming and going of these cattle-feeding tests. We have found very clearly

that given in sufficient quantity—one-third more of weight than peas, for example—barley fattens well and makes a good handler, but it needs quantity, and hence the proportionately greater cost of production, as well from the fact that it has been more costly per pound than oats, peas, or corn. If barley could be fed at one cent per pound, it would take a very high place as cattle food—as high as corn.

xv.—Barley (black) with Hay, Roots and Bran.

Our other kind of barley is a Russian, large, flinty, and black, and weighing 60 lbs. per bushel; owing to its newness and large cropping properties we determined to test its feeding value, against the other. As you will notice we got just a little less cost in production, but one-fifth less rate of increase. The cattle did not take to it nearly so well, its flintyness, or want of meal, is evidently unfavourable but of course we must give another trial or two before pronouncing decidedly.

viii.—Uncooked Hay, Roots and Bran, with Mixture of Grain.

This resembles No. 20, G. to some extent, with the exception of the grain which, however was a mixture here, and not corn alone. Properly placed it stands against No. 4, Q. where all the fodder was cut and cooked. In all our experience at Guelph, among pigs, sheep and cattle, there has never been any doubt about the higher feeding value of uncooked against cooked food—other conditions being equal and favourable—such as warmth, change, and healthy good-doing animals; of course a good deal of the very high daily rate and comparatively low cost of this example may be owing to just that exact variety of grain—small as it was—necessary to give extra acceptability to the larger fodders.

xi.—Turnips, with Hay and Mixture of Grain.

That winter with us will not admit of the same liberal use of turnips as is common in Britain, we know, yet we ventured 50 lbs. per head per day, with 3 lbs. bran and 6 lbs. of a mixture of grain to yearling steers.

In order to ascertain the effects of a certain food, that food must be the over-ruling regulator throughout the trial, and no other kind should, if possible, accompany it so as to interfere materially with its special effects. I refer to this now because it may be said that the bran and grain did much of the work under this chapter, but, had neither grain nor bran been given, with such a large quantity of roots the effect would unquestionably have been, under Canadian conditions, insufficient maintenance, and where there is an uneven flow of all the animal life, no experimental work can be safely pursued, because the effect of any special food is *overborne* by the *wants* which exist through insufficient maintenance. I hold then that, in our circumstances at least, it is necessary to feed grain with roots, and here the grain was not in such quality as to over-rule anything else. But, besides these considerations, I think the nature of the green fodder called turnips, is one that by bulk and different chemical composition, decided the animal growth in question.

I have explained this much about turnips, food, cattle, etc., to try and account for the large daily rate of 2.30 lbs., and the average cost of 10½ cts. per pound,—a result that must be gratifying to believers in this rather expensive crop per acre.

x.—Mangolds with Hay and Mixture of Grain.

We have stepped, so to speak, from Scotland to England—from turnips to mangolds—and I wish we had the opportunity to impress the importance of this root against even the turnips. It is unnecessary to delay in any explanation of this experiment; the mangolds have given a slightly better increase as well as less cost.

Allow me also to include the sugar beet feeding in this summary, which has also held its place chemically.

xvii.—Rice Meal with Hay, Roots and bran.

By rice meal is meant the *moulie* of Quebec—the rice being mixed with one-half of oats and peas—rice of itself being too gritty, even when ground, to make a palatable food for cattle. We got, however, a very fair result, but at too much cost.

iii.—Mixture of Corn, Peas, Oats and Barley, with Roots, Hay and Bran.

We have hitherto been among the high costs of production—pastures excepted, of course—and in one word we are now down to 8½ cents per pound—the lowest of all these tests in grain feeding, at the same time having secured the high rate of 2¼ pounds per head per day to live weight.

While handling the mixed grain ration, observe that the like things (Nos. 13 and 14 in the card) spiced with oil cake and Thorley condiment, give on an average about equal results to the *clean* or plain mixture, but at twenty-five per cent. greater cost.

xix.—Wheat.

I used to say that wheat would have no place among other grain in the feeding of live stock, but I would not like to say so to-day. Three years our farm was in circumstances with damaged winter wheat to test its feeding value with cattle. Valued at 1 cent per pound we obtained a good round rate of increase, two pounds per head per day, at a higher cost of production, however, than many others.

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2. Canadian Agriculture.

The trite saying that the history of its agriculture is the history of that country, applies much more to Canada, or indeed to any of the British Colonies, than it does to Britain. The reasons for this are too simple to be specified, and the one fact alone, that the possession of Canada being the outcome of the agricultural swarming of other countries will convey the whole position.

Thus, then, as our national history is a short one, so our agriculture has a short history. It is not more on an average than fifty years since both of them had a place in the world's catalogue of "mine and thine." The men of these days are very much the men who began both, and hence the British Association for the Advancement of Science this year was actually shaking hands with the fathers of Canadian agriculture—the very men who cut the first tree, who held the first plough, and reaped the first crop of grain on this immense northern continent—still we are proud to say, a part of the British possessions. As we dip into the progressive aspect of our subject, it will be evident that there has been no "new era," no "transition period," nor any great landmark, so to speak, in Canadian agriculture as in that of Britain. Our fathers and ourselves have had no cause "to reap tiny crops beneath the shade of the feudal castle, aye ready at the shout of the warder or the trumpet call, to throw down the sickle and seize the sword." Ours has been the unchecked march of the invader bringing destruction to one crop (trees) and then a glorious fruitage from others.

It forms a somewhat remarkable reflection that while we—not our forefathers only, but we—were clearing the forest and stretching our arms westward, Britain not only had no reaping machine nor steam engine, but not even a common scythe, *everywhere*. The mother, in the person of the British Association, was here to-day seeing what progress one of her sons has made during the last half century, and in the manly pride of our independence we asked her to think what she was herself when she bade us God speed.

Canada is a forest. Nothing ever did and nothing yet strikes the comprehensive observer so much as the seemingly endless forest—over mountain and valley, and indeed everywhere. This is the first feature of our country to which we invite your attention.

Without trees we would probably have had no agricultural history—the removal of them has given us an agricultural history.

I submit most respectfully—particularly to an august body of scientific and practical thinkers—that the irregular and excessive forest clearing of a newly-acquired country is not only an inevitable sequence of man's unrestrained domination, but an absolute necessity to progress and wealth. On another occasion I may have to submit some things upon arboriculture, and here all I need to say on this point of our forestry is, that even assuming that Canadian pioneers were conversant with whatever light there was half a century ago with regard to the proper proportion of tree surface to arable surface, the struggle to win a home even under all the propitiousness of soil and climate was too hard and lengthy to stand flavoring with book knowledge, or anything that did not produce immediate bread and butter.

But still farther. The forest agriculture of our country possesses a significance that some of us do not sufficiently measure. The comparative reliability of a country largely covered with trees for health of all animals and production of variety of crops is a fact everywhere acknowledged. It would not be difficult to place this in several parts of the world, and over the great breadth of the Dominion we have no difficulty in finding strong proof of both the extremes as well as the exact measure of healthy conditions. Our forest lands have more variety of aspect, more variety of soil, better drainage, better water supply, and a more reliable climate than our prairies, for example, possess. The other well known advantages of woodlands do not form part of my agricultural subject, yet the Canadian farmer has had necessarily to act the part of a forester more than those in older countries.

Canada is a land of fresh water seas. This, the second great feature of the country, is a prominent agricultural one, as it has regulated very much of the settlement and still regulates much of the climate and traffic of our best districts. The extent of the lake shores of Canada is simply unknown, and those inside the commercial area far outnumber those of any other country by many thousands of miles.

Canada is a prairie, and practically for agricultural purposes we did not know this ten years ago. These untimbered, level, dried-up seas may yet play a very important part in our agricultural history, both as to grain and live stock, upon which I shall afterwards devote some thoughts.

But Canada is also a land of mountains. Our east and west extremes are bound by an average of 3,000 feet and 8,000 feet respectively above sea level.

The physical features with the flora and geology of the Dominion of Canada, other than these very abstract ones, are wonderfully diversified and interesting, and must be dealt with also very concisely. We have swamps, beaver meadows, marshes, and hill grazings in great numbers and large areas.

We have thousands of miles of rivers, many navigable to great distances, and stretching in their natural navigation to 1,000 feet above sea level. We have over 100 distinct varieties of indigenous trees and shrubs, many of great commercial value, and the flora otherwise I dare not touch upon, even our geology is neither so varied nor as yet so well outlined as some other countries, but it has an agricultural significance that has made history enough in particular districts, and, indeed, the geologist has of late years been the forerunner of our extended civilization—his report being always ahead of settlement.

The distinctive soils of the country in the order of their prominence are:—Loams, vegetable deposits, alluvials, clays, sands, and marls. By reason probably of the wider field there is less mixing of these than in an area such as Britain, and our geographical position has given a high proportion of glacial covering. The climate of Canada does not vary so materially as may be supposed from the great geographical range embraced. We seem to have seven climate belts; the extreme eastern, embracing Newfoundland and part of Quebec; the gulf area, including Nova Scotia and part of New Brunswick; the St. Lawrence area, including Quebec; the lake region, embracing Ontario and Hudson Bay south; the great inland or prairie lands; the Rocky Mountains and the Pacific Range. These, in their summers and winters, are pretty well marked by both their outside and local influences as to rainfall and temperature, and consequently are the great regulators of our detail agriculture in this stretch of 3,500 miles.

Having some acquaintance with the very distinct public objection to either a lengthy or statistical paper on what is expected to have some popularity, I do not propose to weary, but some figures are indispensable. The Dominion of Canada at present cultivates about 22,000,000 acres, or just equal to the same thing in Great Britain and Ireland, exclusive of permanent pasture. The improved pasture area of Canada is 7,000,000 acres as against 25,000,000 of the Mother Country. The respective populations being 5,000,000 and 35,000,000, we can easily make comparisons of cultivated land per head. The average size of farms in Canada is a little under 150 acres. The average annual gross value of produce is $23 per acre over all the Provinces—the extremes being as much as $43 and $15. Clear profit may be placed at an average of $3 per acre—that is after paying for labour, maintenance, interest on capital invested and other charges. The average farm carries live stock to the value of $8 per acre, which fact alone points to grain as yet in place of beef and mutton. Land when rented fetches $3.80 per acre per annum. The average purchase price of land throughout the Dominion is about $35 per acre, the extreme averages being $40 and $12. Buildings stand at an average of one-fourth the value of the land in cultivation, and are included in the foregoing figures.

The annual taxes upon land consist of a township rate, a school rate, and a county rate, in all amounting on an average to 10c. per acre, or $15 per the average farm of 150 acres, or in other words the rent of an average 1½ acres in Britain.

There are six different kinds of farming, usually called —(1.) mixed farming. (2.) grain farming. (3.) dairying. (4.) pasturing. (5.) live stock breeding. (6.) fruit growing.

Land is being actually occupied (not purchased necessarily), at the rate of 383,000 acres, and reclaimed at the rate of 100,000 acres per annum, and wheat production has increased at the rate of 70,000 acres per annum, throwing aside the odd acres.

A new country, therefore, has several very marked agricultural statistics that must be interesting to very many. Production runs away from population at an immense rate; they are not corresponding elements in national progress. Our population has clearly been, is now indeed, essentially an agricultural one, not many large congregations of the non-farming classes anywhere. But the annual value of produce per acre is very considerably less than from older well cultivated lands in Britain, and the annual expenditure per acre both in labour and fertilizers is remarkably low in our case—$15 as against $40 in Britain

This draws us to some features of farm science and practice as characteristic of Canada, and the first one is the old one of exhaustion of soils by the repeated cropping of one class of crops without help. The practical importance of such management has I think been misunderstood, and while I have no idea of excusing the practice, I have no intention of allowing any misconception to go unchallenged.

That the growing of wheat after wheat many times in succession is right scientifically and practically under certain conditions no one denies. The point is, when to stop. An average of 40 bushels or only 15 bushels per acre is Canada's experience. We did not stop at 16 bushels, because (1) we could easily increase the productive area; because (2) grain is less expensive to produce; because (3) it is a lazy system of farming, and thus most acceptable to the many as against the few; and because (4) the product has always been in demand. Can we say, then, that many good excuses did not exist to justify the practice? Then, while theory says and practice indicates that such a system of cropping exhausts the soil, science has not always said so. Can we, therefore, severely blame average humanity, toiling hard to make a home, when abundance for the time being was easily realized?

Another feature of our farm practice is the very limited one of special fertilizers even under our improved husbandry, and their profuse existence in our own country. I am not now speaking of average farming, but of the best. It is a fact in Canadian experience that the full measure of a variety of crops under suitable rotation upon average soil, with the best of farm yard manure, can be maintained without the use of special fertilizers, and that the extensive application of them does not give corresponding returns. Practice replies, that thorough cultivation and the best of home-made manure are enough. Science says that such practice must return as much as is removed. Permit the theory that (1) our old lands still retain some of their original richness—latent it may be, but still there, which properly treated, always responds; that (2) our arid climate does not associate with

special fertilizers either to stimulate or fertilize as they are known to do in more humid circumstances; and that (3) even the climate itself is actually richer in plant food elements than Europe, in addition to the important fact of so much grain being fed to cattle six months of the year.

But our agriculture is peculiar in other respects. Practically, we have only two divisions of the year—summer and winter. To Europeans, we have neither spring nor autumn—particularly no spring term. Hence, seed-time with us is a time of great pressure, necessitating such action, and therefore much temporary work, that are unknown in British experience. Hence, we possess machinery that takes the place of much of the manual labour of other countries, and our horses are more active and enduring. Man himself rises in physical activity and brain power to meet the requirements of the climate. I think no one has yet given Canada the full measure of value she deserves for climate. This must be owing to want of knowledge to assign a cause—for the effects are very patent. We are nearly all north of latitude 45°, and necessarily have such extremes of temperature as either do not propagate or encourage, or destroy most of the disease germs that we know do luxuriate in more temperate zones. As this is more remarkable among the live stock of the farm than other animals—or man, it may be, owing partly to the immediately favourable change upon cattle and sheep that are yearly imported from Britain. What a fine field this should be to the keen hygienist?

The farming of Canada is also characterized as affected by her sunshine and showers. Both are better defined than the same things in Britain or the United States; we never have the uncertain heat and rainfall of the one, nor the terrible cyclones of the other.

And now, allow a few notes on the undeveloped agriculture of Canada. The progress of Canadian agriculture was necessarily, in the choice of land, one of taking the best and leaving the worst. This method in a small area would be very marked as regards the difference between the best and poorest soils; but, as it has been over a wide continent that is yet thinly populated, the picking and choosing is not at all a prominent thing. It is a fact at the present moment, even in the older districts, that the one-half of the uncultivated land is distinctly equal to the cultivated, and that the bush or forest of the newer townships possesses soil in every respect equal to the older ones. Not only so, but what long ago was considered waste in the form of swamp and stoney ridge is now, though uncultivated, valued as part fit to bear crops. It is a very common circumstance to see men leaving the old homes in search of new lands all the while that good investments exist in the immediate neighbourhood. This arises from the feeling of want of room, or of restlessness, or of speculation, so common on this continent. The existence, then, of so much good land easily secured is of itself a hindrance to development in the sense of older countries, and yet, of course, it is this very spirit of possession that has made the country.

Canadian agriculture is undeveloped as regards thorough ordinary tillage. While our rich climate bids us take things easy, it is certain were we to devote more time and labour to common cultivation the increase would amply repay. Men, however, that is average humanity, are content with living well under the easiest possible conditions. I could give many splendid exceptions, nevertheless. Part of our agriculture is also undeveloped in the sense of inappropriate produce. Changes in farm practice are just as legitimate as in other professions, so that if some of us persist in growing grain instead of beef and mutton, when flesh is wanted, there is misapplied farming on the part of the nation.

The hindrances to the development of our agriculture are very much those of other new countries. The almost unlimited field for speculation on the part of wealthy individuals and companies holding large tracts to the exclusion of common settlement is one of these; so also is the temptation to engage in more immediately lucrative professions, such as sea fishing and lumbering. The possession of much money on the part of many, especially new settlers, is not a prominent drawback, because our experience as yet is clearly in favour of moderate means bringing out men's greatest activity and worth. The migratory habits of a large proportion of the agricultural population are certainly a hindrance to *better* farming, if not to progressive occupation. The easy sale and transfer of landed property and the want of much of the older country feeling for birthplace all go to make up this list.

Yet there are many improvements in progress. Drainage particularly is already a feature in our agriculture, with better fences and roads. The establishment of a greater

variety of grasses, and their production in the form of permanent pasture, is one of the latest lines of improvement. It would be foreign to such a rapid sketch as this to specify crops in detail.

With the exception of wheat, barley and fruit, Canada is not an exporter of crops. As produced in the form of beef she is so. The proportion of crops is as follows :

Cerials—One-half.
Hay—One-fourth.
Pasture—One-eighth.
Roots—One-sixteenth.
Leguments—One-sixteenth.

In this I do not make allowance for the very new and special graingrowing of our great North-West.

The general character of the farming of Canada and its specialties are well marked by districts, and through nationalities to some extent. Beginning on the east, we have oats, barley and potatoes as peculiar to the Maritime Provinces, with a pretty general indifference to improved live stock ; Quebec is very distinct agriculturally, and cannot well be compared to anything else we have, or clearly to that of any other country ; it resembles a large market gardening system, with live stock ordinarily suited to French requirements. Farther west, Ontario Province is essentially British in cropping and live stock, but growing more of grain and less pasture proportionately, and as already noted, fewer cattle and sheep per acre. Then Manitoba, and what is called the North-West, are yet in the preliminary stage of grain production—wheat and oats principally ; and British Columbia gives a variety of crops in addition to natural pasture.

I think one of the best evidences of better "thinking" among our farmers is system of rotation in cropping ; it is now common, and telling prominently in our increased annual produce. The better winter feeding of live stock is also but a recent and now a leading feature of our practice. But the live stock interest otherwise is well worth a thought : That Canada, and Ontario in particular, is peculiarly adapted for this purpose is well known. Its variety of physical conditions, the invigorating and purifying character of its winters, and the ability to produce the kinds of crops so essential to animal life at all seasons, have already marked us as the breeding ground for all others connected by land. Consequently, the demand upon Ontario for the best pure-bred farm-stock has already out-run all bounds. At the same time our neighbours are wise enough to take advantage of our admirable quarantine —climatic as well as in transit—ere taking home what they purchase from other countries. Canada can produce pure-bred animals at almost half the British cost, because it has the cheaper crops and the fewer risks of death by freedom from diseases, and it can feed and finish beef and mutton at less than half the cost of the same things, in stall and on pasture. What Canada can do in the extensive production of cattle and sheep on the pastures called ranches is now in course of experiment. The field is a very large one. If gone about with all the light of the present day judiciously applied, it cannot fail of becoming a success. The Rocky Mountain plains on the one end and the hills and valleys of the Maritime Provinces on the other, are waiting development in the extensive and cheap production of beef, mutton, and wool.

With the exception of the United States, no country receives so much governmental help in its agriculture as Canada does. Not only for the Dominion as one, but every Province has a special Minister of Agriculture, giving special aid to Agricultural Exhibitions; aid to special lines of industry such as cheese, butter, fruit, entomology, veterinary, and general agricultural education.

I do not anticipate too much when I say that every Province will have its own Agricultural College soon. The example under the Ontario Government at Guelph is evidently, by its vigour and wide range of success, stimulating the other Provinces, as it has actually already done to others in Britain, Australia, and the United States.

The effect of the United States upon Canadian agriculture is necessarily a very clear one. In crops we produce some that they cannot do so well, and they of much more than we can ; thus commercial interchange is not only close geographically, but for mutual progress should be thoroughly reciprocal. They want live stock, we want corn (maize) ; they

have no clear road to the British market, we have no hindrances to it; they require facilities, we want money.

But irrespective of their agricultural products the much greater population of the United States will always exercise a beneficial influence on whatever Canada has to spare from her own surface.

Thus, then, Canadian agriculture in relation to Europe plays a somewhat similar part, and yet a competative one both to the United States and Europe. We are at that stage in national enterprise when bone and sinew are good, yet immature, and as a young man feeling his way in the world. We have maturity and wealth opposing us even up to our own doors, and those same things meeting us everywhere else. It is obvious, therefore, that our own future in the world's agricultural market must be cautiously and firmly handled. These are no times of half measures and indecision. To peddle beef and flour in Britain against her own farmers and all other comers implies more than commercial acumen; it means such a disposition of our landed estate, politically, scientifically, and practically, as shall bear the crucial test of the best men of all nations.

INVENTORY AND VALUATION OF LIVE STOCK AND IMPLEMENTS, ETC.

Horses:		
8 working horses	$1,700 00	
4 instruction horses	550 00	
1 express horse	75 00	
		$2,325 00
Cattle:		
1 Shorthorn bull	$450 00	
1 Shorthorn bull	2,500 00	
4 Shorthorn cows	3,357 00	
1 Shorthorn bull calf	150 00	
1 Shorthorn heifer calf	150 00	
		6,607 00
1 Hereford bull	$3,000 00	
3 Hereford cows	1,310 00	
2 Hereford bull calves	500 00	
1 Hereford heifer calf	250 00	
		5,060 00
1 Polled Angus bull	$2,600 00	
4 Polled Angus cows	2,500 00	
4 Polled Angus bull calves	1,000 00	
		6,100 00
1 Devon bull	$325 00	
2 Devon cows	500 00	
		825 00
1 Galloway bull	$600 00	
2 Galloway cows	800 00	
		1,400 00
1 Ayrshire bull	$310 00	
4 Ayrshire cows	1,050 00	
1 Ayrshire heifer calf	70 00	
		1,430 00

CATTLE—*Continued.*

1 Guernsey bull	$350 00	
2 Guernsey cows	550 00	
2 Guernsey heifer calves	150 00	
		$1,050 00
1 Jersey bull	$325 00	
2 Jersey cows	650 00	
1 Jersey bull calf	125 00	
1 Jersey heifer calf	100 00	
		1,200 00
1 West Highland bull	$200 00	
		200 00
1 Holstein bull	$1,100 00	
3 Holstein cows	1,200 00	
		2,300 00
17 Grade cows	$850 00	
6 Grade steers	750 00	
3 Grade calves	120 00	
21 fattening cattle	1,260 00	
		2,980 00

SHEEP:

1 Lincoln ram	$160 00	
3 Lincoln ewes	180 00	
2 Cotswold rams	285 00	
5 Cotswold ewes	175 00	
1 Leicester ram	260 00	
8 Leicester ewes	362 00	
1 Highland ram	60 00	
1 Highland ewe	22 00	
1 Cheviot ram	60 00	
2 Cheviot ewes	45 00	
2 Oxford rams	220 00	
9 Oxford ewes	530 00	
2 Hampshire rams	395 00	
8 Hampshire ewes	320 00	
3 Shropshire rams	580 00	
14 Shropshire ewes	500 00	
1 Southdown ram	270 00	
5 Southdown ewes	312 00	
36 Grade ewes	360 00	
29 Fattening wethers	174 00	
		5,270 00

PIGS:

2 Berkshire boars	$175 00	
5 Berkshire sows	175 00	
1 Middle York boar	40 00	
1 Middle York sow	50 00	
1 Essex boar	30 00	
1 Essex sow	25 00	
6 Feeding pigs	48 00	
		543 00

ABSTRACT:

Cattle	$31,477 00	
Sheep	5,270 00	
Horses	2,325 00	
Pigs	543 00	
	$39,614 00	
Total for live stock		$39,615 00

IMPLEMENTS, ETC.

Value of farm implements per inventory	$5,400 00
Value of garden stock and implements	1,887 00
Value of experimental stock and implements	1,000 00
Value of carpenter tools, etc	400 00
	$8,687 00

PART VI.

REPORT OF THE FOREMAN

OF THE

HORTICULTURAL DEPARTMENT.

DECEMBER 31st, 1884.

To the Honourable A. M. Ross, Commissioner of Agriculture :

SIR,—In submitting the following report on the practical horticultural work of this Institution for the closing year I beg to say that much has been done this season toward the completion of the improvements commenced two years ago. The drains leading to the building and walks connected therewith are now all but finished so far as practicable, until the further necessary alterations are decided upon.

The large lawn in front of the college was seeded down in the spring, using about forty pounds of seed to the acre, viz., thirty-five pounds Canadian blue grass (Poa Compressa), and five pounds white clover, both perfectly hardy and permanent, of good colour, and calculated to endure both the severity of winter and drought of summer, forming a close and uniform sole which we think quite equal if not superior to the mixture of six or eight varieties frequently recommended as the finest English lawn grasses, but which in our Canadian climate often prove very unequal and unsatisfactory.

I am glad to say, however, that notwithstanding a somewhat trying season for young grass on account of the exceedingly dry weather throughout the month of August, we have been fortunate enough to secure a good catch, and if the coming winter is not very unfavourable we expect to have a good lawn next season. As provided for in the plan, an arboretum has been formed consisting of such trees and shrubs as are thought to prove sufficiently hardy to endure the extremes of our climate. With this object in view a small selection was made in 1880 by a committee of the Fruit Growers' Association, and planted on the west front of the College grounds; but to admit of regrading and change of drive leading to the buildings, which was decided upon the following year, it was found necessary to move the plants again into nursery lines where they have stood until the past spring when the ground was prepared for their reception. The above selection has been increased from year to year until now that it may be said to be a large collection, the principal list of which was given in a former report.

The most of them are now planted on the lawn, distributed in groups according to their respective families or natural orders, the shrubs and smaller sized trees in front of the College and the larger trees in rear.

The following shows the families and genera represented, also the number of species and varieties in each group:—

	Genera.	Species and Varieties.
Ancardiaciæ, or Sumach family	2	5
Aquifoliaceæ, or Holly "	2	3
Araliaceæ, or Zoywort "	1	2
Betulaceæ, or Birch "	2	10
Bignoniaceæ, or Bignonia "	2	6
Calycanthaceæ, or Calycanth "	2	3
Caprifoliaceæ, or Honeysuckle family	6	25
Celastraceæ, or Spindle Tree family	2	4
Coniferæ, or Pine family	14	46
Cornaceæ, or Dogwood family	2	7
Corylaceæ, or Oak "	6	28
Ericaceæ, or Heath "	4	5
Euphorbiaceæ, or Spurze "	2	3
Hamamelidaceæ, or Witch Hazel family	3	4
Hypericaceæ, or St. John's Wort "	1	2
Juglandaceæ, or Walnut family	2	7
Lauraceæ, or Laurel "	1	2
Leguminosæ, or Pulse or Bean family	9	23
Magnoliaceæ, or Magnolia family	1	2
Malvaceæ, or Mallow "	1	5
Myrtaceæ, or Myrtle "	2	2
Oleaceæ, or Lilac "	4	28
Rhamnaceæ, or Buckthorn "	2	3
Rosaceæ, or Rose "	10	36
Rubicaceæ, or Madder "	1	2
Rutaceæ, or Ruewort "	1	1
Salicaceæ, or Willow "	2	32
Saxifragaceæ, or London Pride family	5	16
Styraceæ, or Storax family	1	2
Tamaricaceæ, or Tamarisk family	3	6
Urticaceæ, or Nettle family	3	13
Verbenaceæ, or Verbain family	2	2

It will here be seen that the arboretum so far embraces 32 families, 100 genera, and 334 distinct species and varieties.

In addition to this the nursery ground still contains a number of the larger class of trees, prominent among which are the maple, linden and chestnut families in considerable variety, intended to be planted east of the buildings as soon as the ground is available for that purpose.

The nursery ground here referred to consists of five plots in the experimental field, allowed by Professor Brown for nursery purposes. Each plot is one-tenth of an acre in extent, and is bounded on the north and south sides by hedges of different shrubs, intended as permanent specimen hedges of both a useful and ornamental character. As yet only five of these hedges are planted, viz., Norway spruce, arbor-vitæ or white cedar, buckthorn, barberry and privets. The plots contain a variety of forest trees and shrubs, such as maple—several varieties, ash, elm, birch, linden, white oak, butternut, Norway and native spruce, etc. Many of these were raised in the gardens and experimental departments, while others were procured quite young, intended to be planted in forest clumps on various parts of the farm, partly for their effect in breaking views, and partly for the purpose of showing what progress may be made by forest trees under cultivation. These experiments on a small scale may prove interesting to many, now that the subjects of how to protect and how to replenish our forests is attracting so much attention throughout the Provinces and other countries.

The first of these, a clump of 500 black walnut trees, was planted five feet apart in the spring of 1880, under the superintendence of Professor Brown. The plants, two years from seed, may be said to have done very well, especially the last two years they have made a luxurious and healthy growth, but quite bushy and many branched, not so tall, straight, and clean as desirable for young trees intended for useful timbers. I now feel convinced that had the nuts been planted at the same date instead of the young plants, and getting the same care in cultivation, that cleaner and taller specimen trees would now be the result, and in my opinion this will hold good in all nut-bearing trees, if not in all hardwood trees having a large tap-root, the cutting of which in transplanting checks the leaders and encourages or allows the lateral or side shoots to get the ascendancy, hence a broad irregular top with short stem or trunk, comparatively worthless for their timber, although very desirable for ornamental purposes, as single specimens in the lawn, etc.

Five additional clumps of similar size were planted in succession, composed of the following trees: butternut, hard maple, white ash, European and American larch, and a mixed clump, including black walnut, butternut, ash, birch, larch, linden and elm. The butternut has not been very successful, probably on account of the soil, being planted on a dry bank adjoining a gravel pit. The hard maple, from being planted rather late in the season, and the roots getting somewhat dry in transhipment, have hardly equalled expectations, but I have no doubt will recover with time. The white ash, although doing well, had to be removed the second year—the field in which it was planted being required for permanent experimental purposes. The larch, as well as the various trees in the mixed clump, show a vigorous and healthy growth which promises all the success desirable.

Orchard.

Of the old apple orchard only a few trees now remain, and what fruit they produced this season was mostly picked before maturing,—a few barrels of very indifferent apples being all that was left to collect at the proper season. The younger trees planted in the borders of the kitchen garden about eight or nine years ago, I regret to say suffered severely last winter, so much so that some of the finest and best formed trees both of apples and pears, just coming into bearing, had to be cut down, and I fear there are many more that will never recover; in the spring, when breaking into leaf, their unhealthy appearance, by stunted growth and partially developed foliage, clearly indicated that something was wrong. Suspecting the borer, we subjected them to a close scrutiny in hopes of discovering the cause, but the most careful examination revealed no enemy that we could either punish or prevent by cutting or breaking the young twigs and branches; the bark seemed shrunk, and the innerwood discolored by dark irregular streaks, lacking that clear green and white colour characteristic of a free and healthy circulation. This apparent disease or blemish could be traced down the tree to near the snow-line, below which all seemed as it should be, perfectly sound and healthy; we were thus forced to the conclusion that it is a clear case of winter-killing—a misfortune I fear more prevalent in this section than many are willing to admit, attributable, we believe, to the height of this locality over the surrounding country, exposed to the severest storms from whatever direction they come.

The young orchard established in 1880, under the superintendence of a committee of the Fruit Growers' Association of Ontario, with the laudable object of testing what fruit may be produced profitably in the provinces, as well as to supply all the necessary demands of the Colleges and afford an opportunity of interesting the students in fruit culture.

Operations were commenced on a small scale the first year, in a twenty acre field known as No. 10, lying south of the College buildings, and the planting enlarged each successive year until now that the ground is mostly occupied, with the exception of about 1½ acres reserved for new and untried varieties which may from time to time be introduced. In all 1336 trees have been planted in the following proportion: 987 apples, 183 pears, 89 plum and 77 cherry, embracing the following number of varieties of each, viz.: 130 varieties of apples, 55 of pears, 29 of plum and 21 of cherry. Each spring since the commencement we have had to replace a few, but the victims of last winter outnumber those of the two previous winters by considerable odds. In noting the casualties this fall

we find 210 apple, 80 pear, 37 plum and 15 cherry trees completly dead, or so near it that they will have to be removed in the spring.

The trees have invariably done well the first season, the failures in planting not exceeding one or two per cent., as the strong growth from the roots and lower portion of stems clearly demonstrate. The extremes of winter seem to be the sole cause of such disasters, but fortunately we have many well known hardy varieties able to outlive the ordeal, and I have no doubt from the energy and enterprise displayed by the fruit growers of to-day, this variety will yet be largely increased.

The small fruits, viz., currants, gooseberries, raspberries and strawberries are planted in a portion of the apple orchard, covering from three to four acres, in lines between the larger trees, each in considerable variety. All have been fairly productive, specially raspberries, which was an abundant crop and fully met all demands for College consumption. The Philadelphia proved the most prolific variety, but the small size and irregular form of berry make it less attractive than some of the others. The Cuthbert was very fine, a large berry with firm flesh, stands handling well, and for all purposes perhaps the most satisfactory variety that we have, although Turner, Herstin, Thwack and Highland-hardy, as well as some of the black sorts, Davisons, Thornless, Dorchester, Gregg, etc., all proved good, and have made promising canes for next year's fruiting. Currants and gooseberries, notwithstanding our efforts to subdue the caterpillar, were somewhat punished by the ravages of that intolerant pest, which was unusually persistant this year, yet an average crop for the age and size of the bushes was secured. Strawberries, of which we have twenty-three varieties, suffered considerably from winter killing, and hardly came up to the mark of an average crop; also from inroads made by general pickers at unseasonable hours, which materially reduced the proceeds. Wilson's Albany, Crescent seedling and Monarch of the West, we found the most prolific and stand the best of any of the varieties in our collection.

Vineyard.

The grapevines occupy about 2½ acres in the upper end of field No. 17, lying north of and directly in rear of the college buildings, having a high and airy position, with a southern aspect, but unduly exposed to the west, from which come most of our severest storms.

This position was chosen in 1881 as the best available at that time, and some 440 vines planted the same season, in lines at a distance of 12 feet apart each way, and the following spring enlarged to its present dimensions, containing 650 vines, embracing over 90 varieties.

The planting was a good average success, and the first and second year's growth all that could be expected; last year two canes were grown from each plant and carefully tied up throughout the growing season to temporary stakes; these canes being intended for permanent limbs, from which the young and bearing wood is to be grown. This mode of training, which may be called the renewal system, having been decided upon as the best we know of for this section of the country, where it is absolutely necessary that the vines be laid down for winter protection. This being the third year from planting, and calculated as the first for bearing, it was necessary to provide something in the way of a permanent trellis for their support, consequently material for wire-fencing was prepared during the winter months, and constructed as early in the spring as such work was practicable, under the superintendence of the farm mechanics. Cedar posts from five to seven inches in diameter were placed three feet in the ground mid-way between the vines, running north and south.

The trellis consists of four No 8 galvanized wires; the lower wire 18 inches from the ground, and the upper one five feet, the two others dividing equally the intermediate spaces, thus forming a substantial and lasting trellis.

Unfortunately success thus far has not equalled our efforts. Last year, 1883, the summer was unusually wet and cool, consequently vegetation was slow and late, the vines continuing to grow vigorously into the month of September with the fruit barely changing colour, when the frost on the sixth and seventh night of that month stripped them of their

foliage, and cut back the young unmatured wood in some instances to near the ground, which materially reduced the fruit-bearing wood for this season, nevertheless what sound wood was left gave throughout the months of July and August the prospects of a fair crop, but again we were doomed to disappointment by the early fall frosts. I find in some notes of observations taken during the summer, under date of September the 12th, Champion and Janesville vines, fruit almost ripe ; Moor's Early and Early Dawn well coloured ; Delaware, Hartford Prolific, Brant, Massasiot, Lindley and Clinton just showing colour, etc. Again, September 17th, a general improvement on all those named, and Concord with some others colouring fairly. On the following day, the 18th, I found that a raid had been made the previous night and some of the best fruit carried off or in the dark destroyed. On the same night there came a severe frost which cut down both the fruit and our further faith in vines for the season ; only about a bushel of partially injured grapes was gathered.

Kitchen Garden.

This department has been entirely satisfactory in every respect ; vegetables of all sorts were abundant in their season, meeting in full all the requirements of the college, and such varieties as can be saved are stored in sufficient quantity for winter use. It is needless to particularize when all were equally good both in quantity and quality, and all in excess of the average year's crop. In the spring and early summer months of every year there is a pressing demand for fresh vegetables which we cannot supply in the quantity called for without some more efficient system of forcing, the small amount of lettuce and radish that can be raised under a few hotbed lights (which is the extent of our present conveniences) is quite inadequate to supply the table of say 140, and only serves to encourage the demand for more.

The following fruits and vegetables were supplied to the college during the year :

January.

Cabbage, 3¾ dozen at 75c	$2 81	
Celery, 2 doz. at 75c.	1 50	
Onions, 7¼ bushels at 90c.	6 52	
Carrots, 11 bushels at 75c.	2 75	
Parnsnips, 5¾ bushels at 45c.	2 81	
Turnips, 3¼ bush. at 20c	70	
Salsify, ¾ bush. 80c.	60	
Beets, 3 bush. at 30c	90	
		$18 59

February.

Cabbage, 6¾ dozen at 75c.	$4 06	
Carrots, 8 bush. at 25c.	2 00	
Onions, 8 bush. at 90c	7 20	
Turnips, 8 bush. at 20c.	1 60	
Beets, 1 bush. at 30c.	30	
		15 16

March.

Cabbage, 16½ doz. at 75c	$12 37	
Onions, 7½ bush at 90c.	6 75	
Turnips, 2½ bush. at 20c.	50	
Carrots, 5½ bush. at 25c.	1 37	
Beets, ½ bush. at 25c.	12	
		21 11

April.

Cabbage, 3½ doz. at 75c.	2 62	
Carrots, 2¾ bush. at 25c.	68	

Onions, 2¼ bush. at 90c.	$2 08	
Parsnips, 2½ bush. at 45c.	1 12	
Beets, ½ bush. at 25c.	12	
Sundries	15	
		$6 77

May.

Parsnips, 2 bush, at 45c.	$ 90	
Carrots, 9 bush. at 25c.	2 25	
Beets, 1½ bush. at 25c	37	
Onions, 1¾ bush. at 90c.	1 50	
Rhubarb, 12 bush. at 75c.	9 00	
Lettuce, 5½ bush. at $1	5 50	
Salsify, 2 bush. at 80c	1 60	
Asparagus, 390 bundles at 4c	15 60	
Sundries	45	
		37 17

June.

Lettuce, 5 bush. at 50c.	$ 2 50	
Rhubarb, 18½ bush. at 70c	12 95	
Spinach, 14½ bush. at 5c	7 25	
Beets, ½ bush. at 70c	35	
Peas, 3½ bush. at $1	3 50	
Gooseberries, 36 quarts at 12c.	4 32	
Strawberries, 176 boxes at 7c	12 32	
Asparagus, 705 bundles at 4c	28 20	
Onions, 20 bundles at 5c	1 00	
Herbs, etc	1 25	
		73 64

July.

Rhubarb, 2 bush. at 70c	$1 40	
Peas, 9¼ bush. at $1	9 25	
Onions, ¾ bush. at 90c.	67	
Cucumbers, ¾ bush. at $1.60	1 20	
Spinach, 2 bush. at 50c.	1 00	
Carrots, 1½ bush at 40c.	60	
Potatoes, 10¾ bush. at $1	10 75	
Beets, 4 bush. at 35c	1 40	
Lettuce, 1¾ bush. at 50c	87	
Beans, 2½ bush. at $1.20	3 00	
Asparagus, 74 bundles at 4c.	2 96	
Strawberries, 35 boxes at 7c.	2 45	
Gooseberries, 132 quarts at 8c.	10 56	
Currants, 52 quarts at 12c.	6 24	
Raspberries, 728 quarts at 10c.	72 80	
Black currants, 71 quarts at 15c.	10 65	
Sundries.	45	
		136 25

August.

Potatoes, 21½ bush. at 75c	$16 12	
Carrots, 2 bush. at 40c.	80	
Beans, 7½ bush. at $1.25	9 37	
Beets, 1 bush. at 50c.	50	
Cucumbers, 13½ bush. at $1.20	16 50	
Onions, ¾ bush. at $1	75	

Apples, 6 bush. at 80c	$4 80	
Peas, 7¾ bush. at 80c	6 20	
Lettuce, ¼ bush. at 40c	10	
Peppers, ⅛ bush. at 80c	10	
Turnips, ½ bush. at 20c	10	
Corn, 18 doz. at 8c	1 44	
Cauliflower, 2 doz. at $1	2 00	
Vegetable marrow, 3½ doz. at $1	3 50	
Cabbage, 3½ doz. at 60c	2 10	
Raspberries, 325 boxes at 10c	32 50	
Herbs, etc	60	
		$38 78

September.

Potatoes, 102 bush. at 50c	$51 00	
Tomatoes, 11½ bush. at 60c	6 75	
Crab apples, 1½ bush. at 80c	1 20	
Onions, 1½ bush. at 90c	1 35	
Carrots, 2 bush. at 25c	50	
Apples, 27½ bush. at 50c	13 75	
Cauliflower, 9 dozen at 96c	8 64	
Corn, 37 dozen at 3c	2 96	
Vegetable marrow, 1 dozen at 72c	72	
Cabbage, 4¼ dozen at 60c	2 55	
Citron, 4½ dozen at $1	4 50	
Celery, 2 dozen at 50c	1 00	
Melons, 1½ dozen at 60c	90	
Sundries	1 50	
		97 32

October.

Beets, 1½ bush. at 40c	$ 60	
Onions, 5½ bush. at 80c	4 40	
Tomatoes, 2 bush. at 50c	1 00	
Carrots, 4 bush. at 30c	1 20	
Potatoes, 9 bush. at 50c	4 50	
Turnips 3 bush. at 20c	60	
Celery, 38½ dozen at 50c	19 25	
Cauliflower, 4 dozen at 60c	2 40	
Cabbage, 7½ dozen at 50c	3 75	
Melons, 1 dozen at 60c	60	
Vegetable marrow, 7 dozen at 60c	4 20	
Squash, 2 dozen at 60c	1 20	
Red Cabbage, 7 dozen at 60c	4 20	
Radish, 17 bunches at 5c	85	
		48 75

November.

Celery, 29 dozen at 50c	$14 50	
Vegetable marrow, 6 dozen at 60c	3 60	
Squash, 1½ dozen at 60c	90	
Cabbage, 4 dozen at 50c	2 00	
Turnips, 5½ bush. at 20c	1 10	
Carrots, 5 bush. at 25c	1 25	
Onions, 6¼ bush. at 80c	5 00	
Parsnips, 3 bush. at 40c	1 20	

Salsify, 1¼ bush. at 80c.	$1 00	
Beets, ½ bush. at 40c.	20	
Sundries	25	
		$31 00

December.

Carrots, 6½ bush. at 25c.	$1 25	
Onions, 6 bush. at 80c.	4 80	
Parsnips, 5 bush. at 40c.	2 00	
Beets, 2 bush. at 25c.	50	
Turnips, 3 bush. at 20c.	60	
Celery, 15 dozen at 50c.	7 50	
Vegetable marrow, 4 dozen at 50c.	2 00	
Cabbage, 3 dozen at 50c.	1 50	
		20 15
Supplied to Prof. Brown, Dr. Hare and others		121 21
Total		$724 60

Flower Garden.

The new flower garden directly in front of the College buildings is now complete in all its parts in accordance with the general plan of the grounds. The design is simple but effective, as was readily acceded by all who saw it during the summer months.

The outline is an oval shaped plot of grass 225 feet by 165 feet, surrounded by a gravel drive, and intersected both ways by gravel walks leading into a circular walk surrounding a plot 40 feet in diameter forming the centre; at present a flower-bed, but where we hope to see in the near future a fountain worthy of its surroundings.

Twelve flower-beds 36 feet in length radiate toward the centre, and two triangular beds at each end of the ellipsis, complete the design which formed a point of attraction to visitors throughout the summer. The older flower garden adjoining the greenhouses, and outlying borders, are now about the only landmarks by which visitors of former years can readily recognize this department.

In all over 5,500 flowering and ornamental plants were used in furnishing the beds and borders, including all the leading and well known varieties of half-hardy bedding plants, as well as some of the less common sorts recently added to our stock, among others a collection of nearly 200 hardy herbaceous or perennial plants, obtained last spring and now planted in a border by themselves arranged according to their respective families, which we hope will prove interesting as well as useful for botanical purposes.

Greenhouses.

No important changes have been made in the greenhouse during the year with the exception of what repairs were absolutely necessary to keep them in working order for the winter. We have repeatedly reported their unsatisfactory and unsafe condition, and from the fact of new plans being prepared and approved of for new buildings over two years ago, we were led to believe that each passing year would be the last for the present structures; consequently, to avoid unnecessary expenses all repairs were deferred until this year when it became indispensable to relay most of the glass, to paint the wood-work and renew a portion of the inside staying which from the first has been of a very primitive and temporary character.

Our collection of greenhouse plants being mostly of the softwooded class, is neither extensive, rare or valuable, but they are in a healthy condition, and we believe about all, both in variety and value, that our present conveniences will admit of. I need not here urge the erection of the new buildings: this matter has been brought before your notice, at various times and in various forms and the desirability of the object generally admitted;

I would simply remind you that the present structure, greenhouses, toolhouse and workshop combined is very unsightly in the position it occupies, neither comfortable for the students nor creditable to the institution, besides it is a standing obstacle in the way of the further improvements required in this part of the grounds.

During the winter months, as for several years past, a portion of each day was spent on practical instructions in the workshops or greenhouses, consisting of lessons on the various modes of propagating potting, training and pruning of plants, also grafting and budding, the objects explained and the art practised by all the students taking the regular courses.

By the 2nd year's students a further course was pursued, including the general management of greenhouses, the various modes of heating, the temperature required, the watering, growing, hybridizing, etc., etc.

This course was continued to the end of the winter term when most of the students (I am glad to say) passad a very creditable examination.

JAS. FORSYTH,
Superintendent Horticultural Department.

BINDING DEPT. AUG 2 3 1967